

# KIC 005310435

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005310435-01	OBS	6564.01	4.931359	133.154761	224807.5	12.299	2593.3	1992.1	2.26	6562	182.17	2246.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005310435-01	OBS	FP	0.00	0	1	0	0	SWEET_EB—MOD_SEC_ALT—DEEP_V_SHAPED

**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.

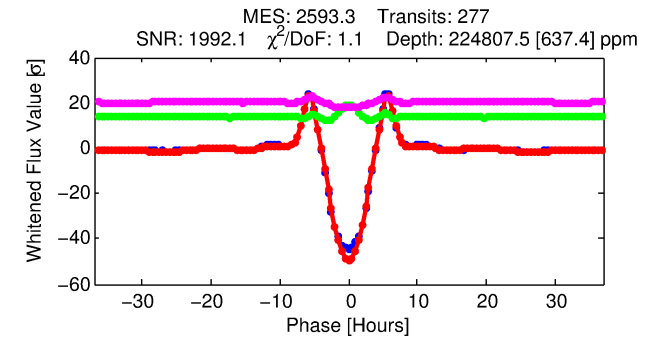
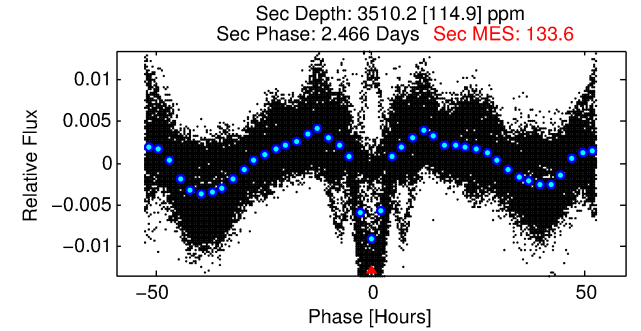
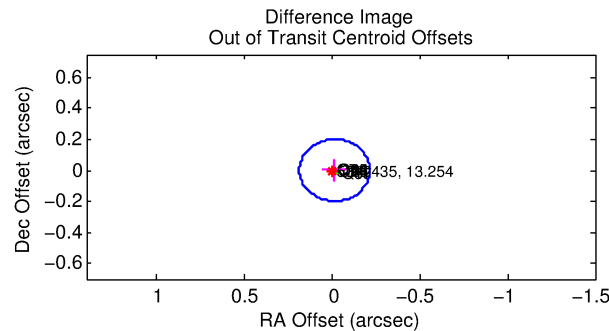
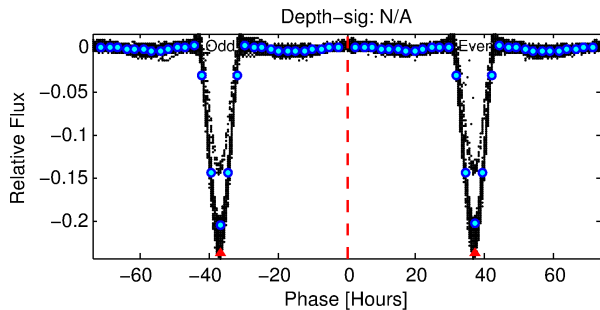
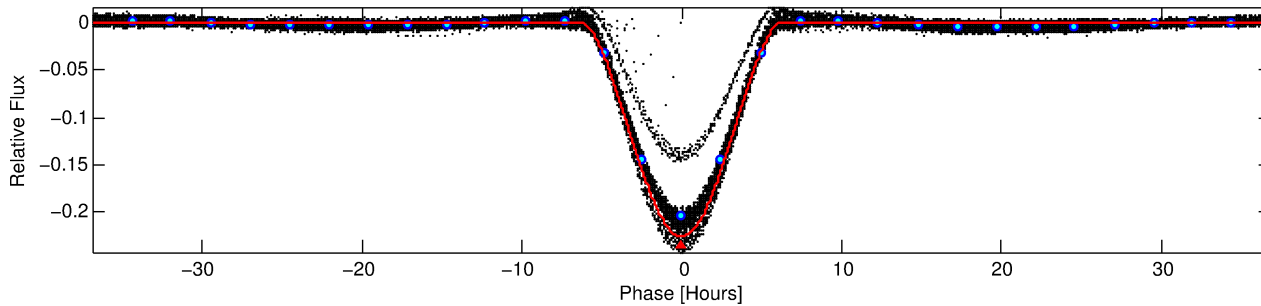
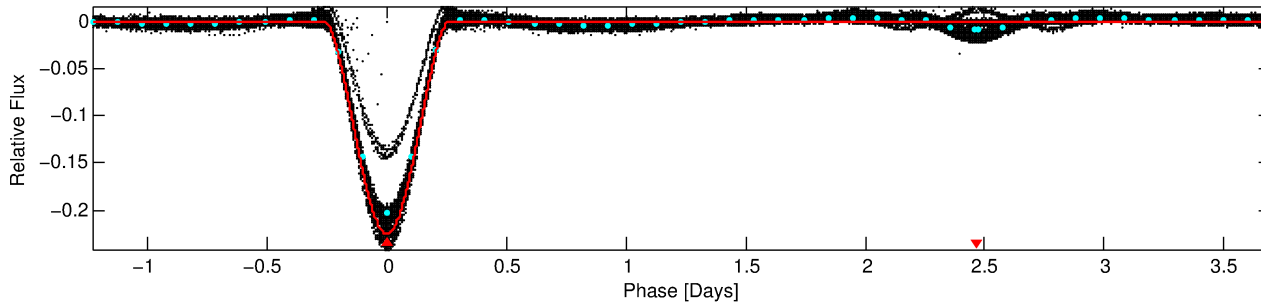
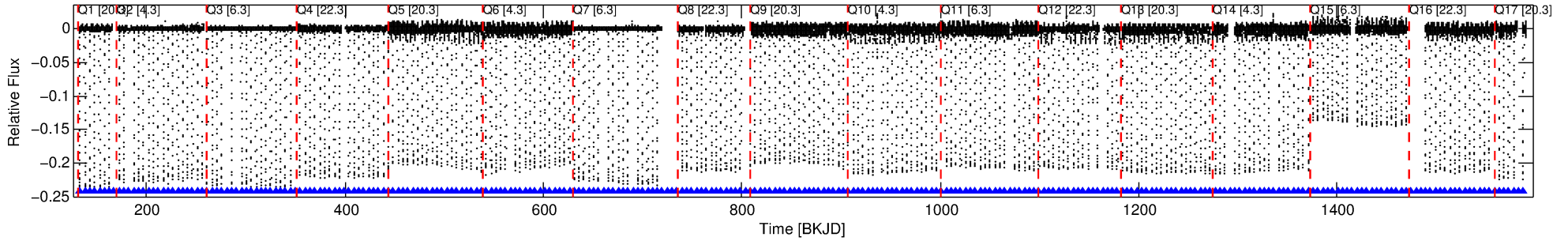
## Ephemeris Match Information For 005310435-01

No Significant Match Found

# DV One-Page Summary

KIC: 5310435 Candidate: 1 of 1 Period: 4.931 d  
KOI: K06564.01 Corr: 0.917

Kp: 13.25 R\*: 2.26 Rs Teff: 6562.0 K Logg: 3.83 Fe/H: -0.400



## DV Fit Results:

Period = 4.93136 [0.00000] d  
Epoch = 133.1548 [0.0001] BKJD  
Rp/R\* = 0.7377 [0.0044]  
a/R\* = 4.54 [0.01]  
b = 1.00 [0.00]  
Seff = 2246.67 [1812.35]  
Teff = 1756 [354] K  
Rp = 182.17 [86.95] Re  
a = 0.0615 [0.0297] AU  
Ag = 0.22 [0.17] [-4.47σ]  
Teffp = 1860 [75] K [0.29σ]

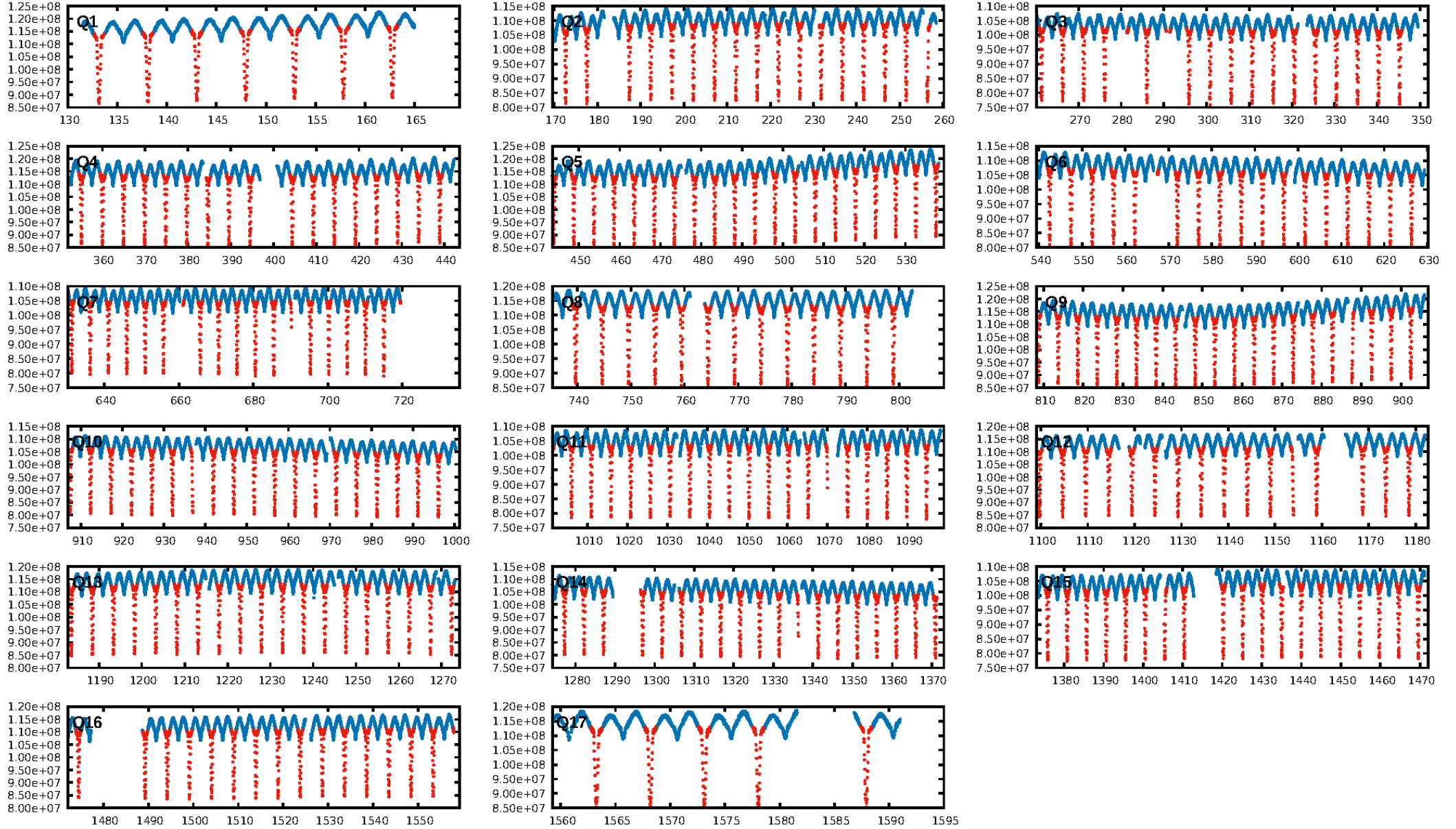
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [265/265]  
GhostDiagnostic-chr: 1.104  
Centroid-sig: N/A  
Centroid-so: 0.471 arcsec [1032.22σ]  
OotOffset-rm: 0.014 arcsec [0.21σ]  
KicOffset-rm: 0.121 arcsec [1.67σ]  
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]

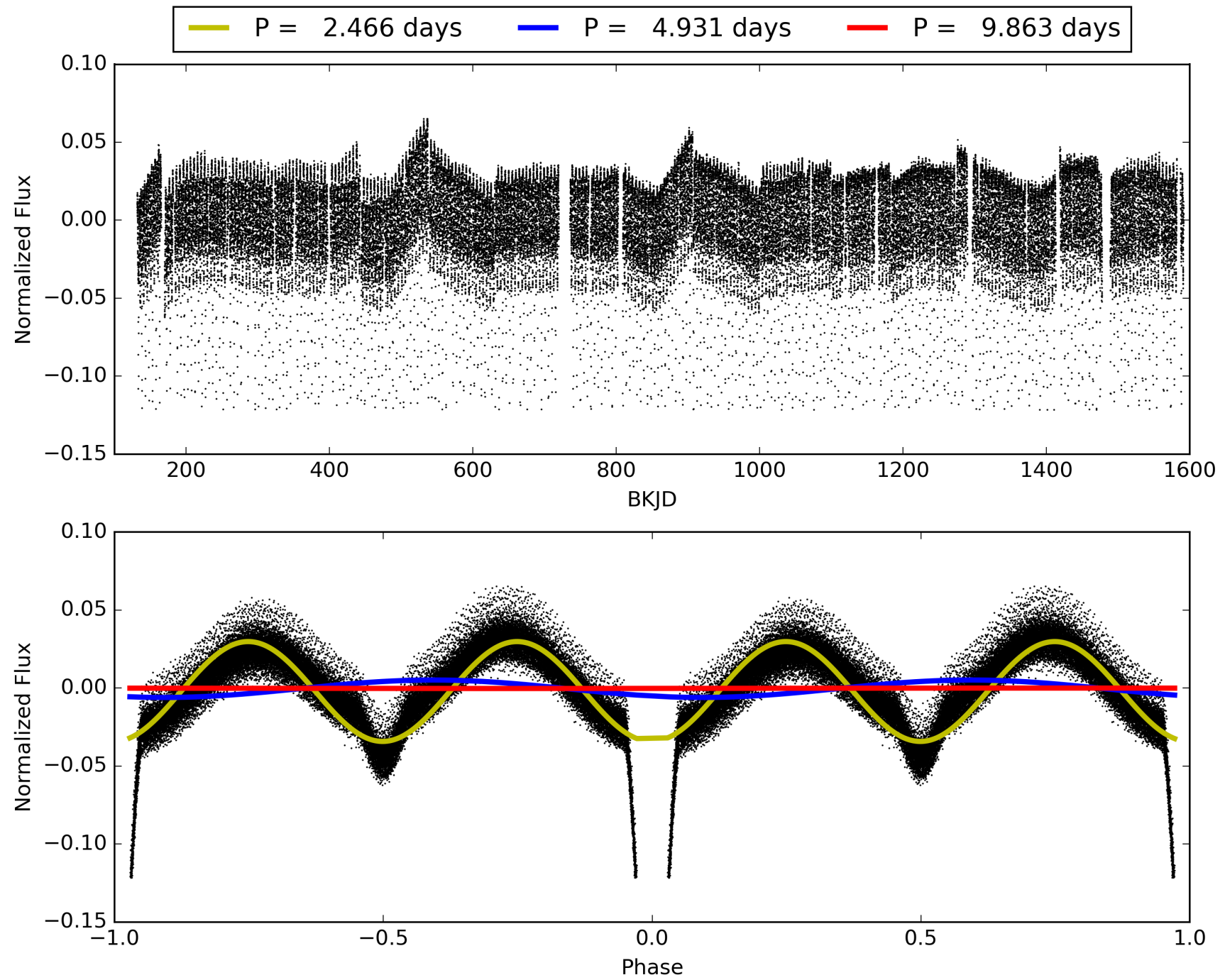
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:05:38 Z

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

# TCE 005310435-01, PDC Light Curves

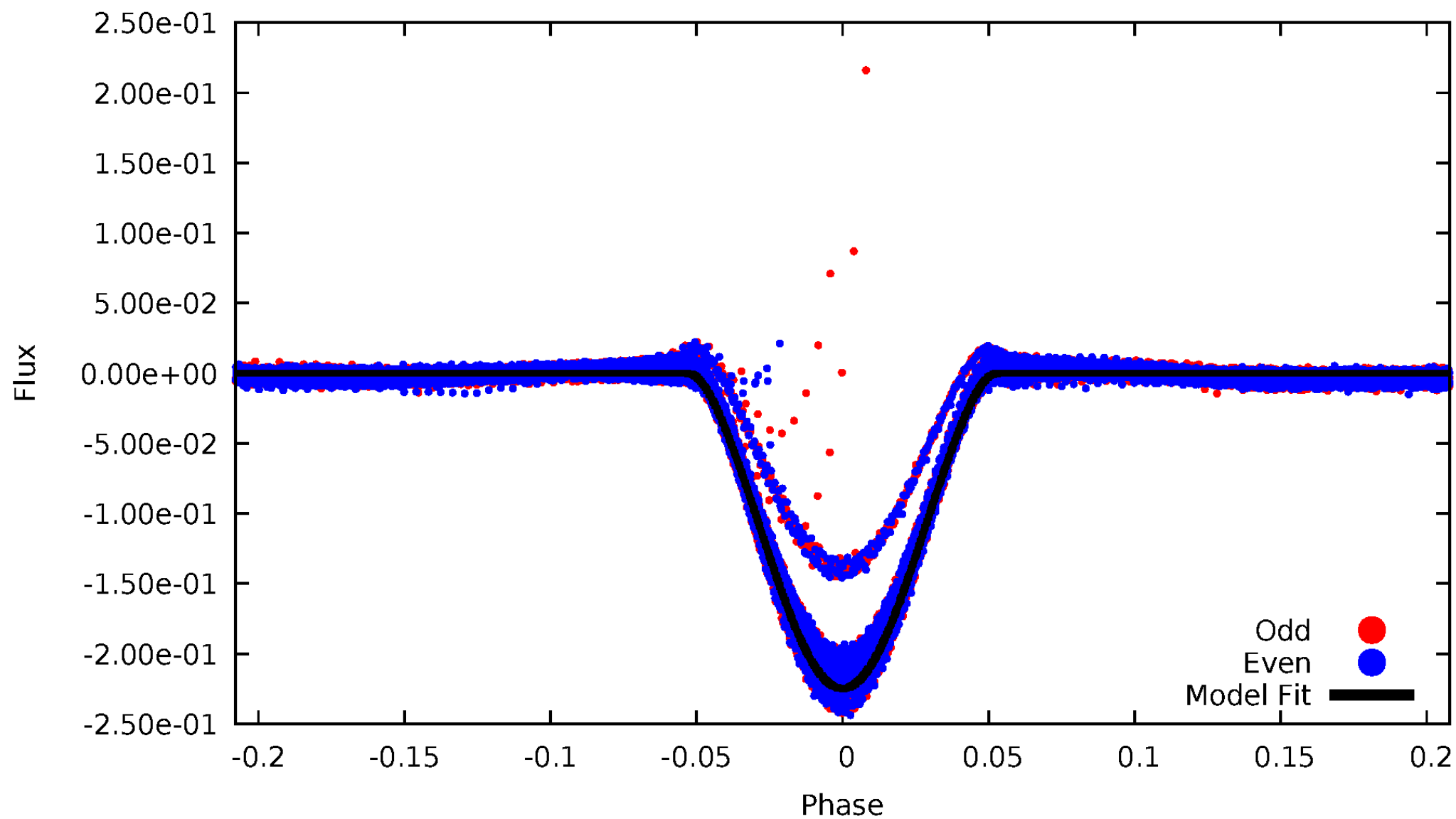


TCE 005310435-01



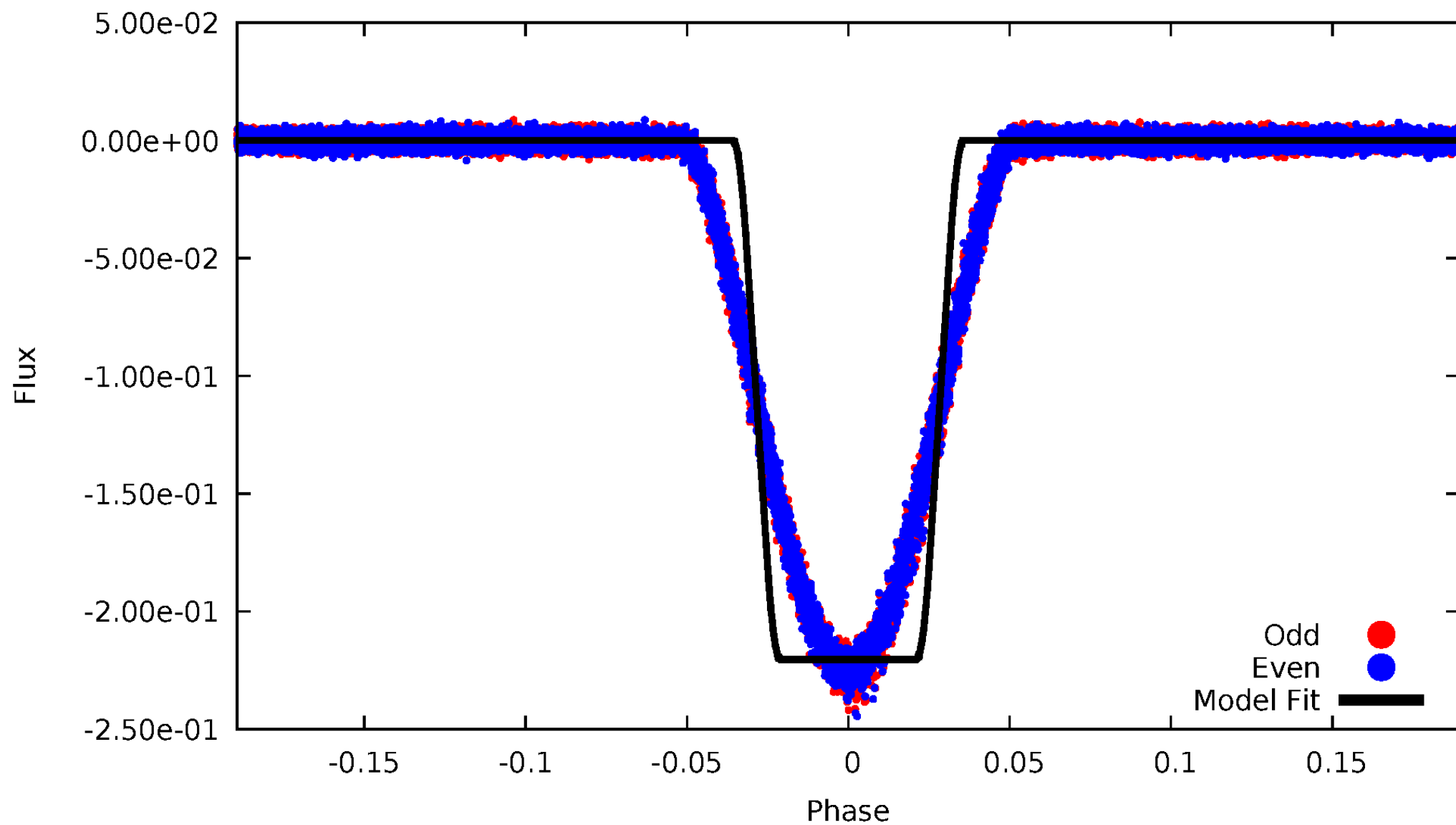
# DV Odd/Even

TCE 005310435-01



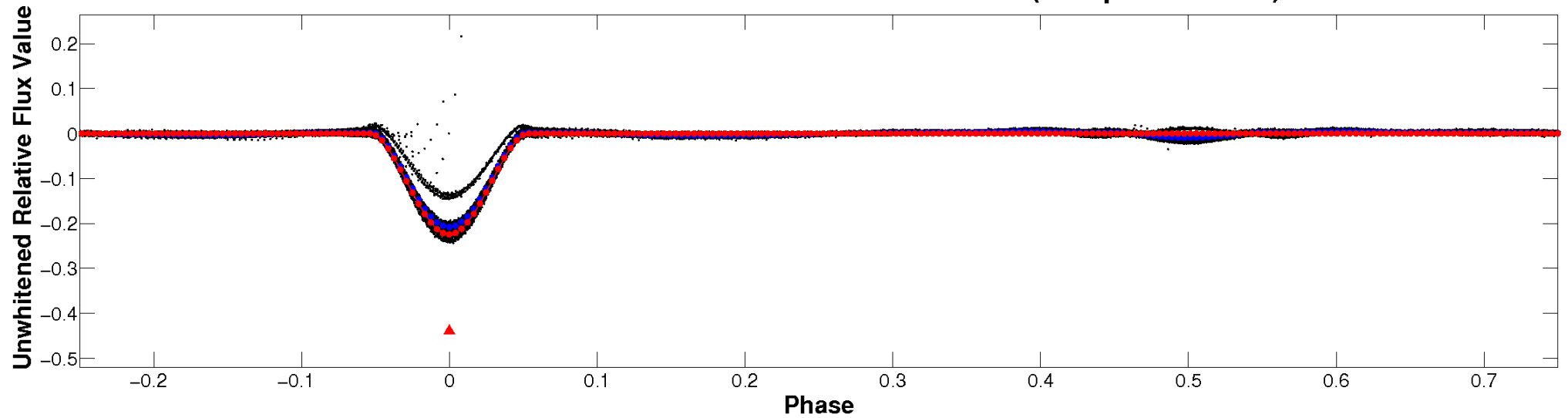
# ALT Odd/Even

TCE 005310435-01

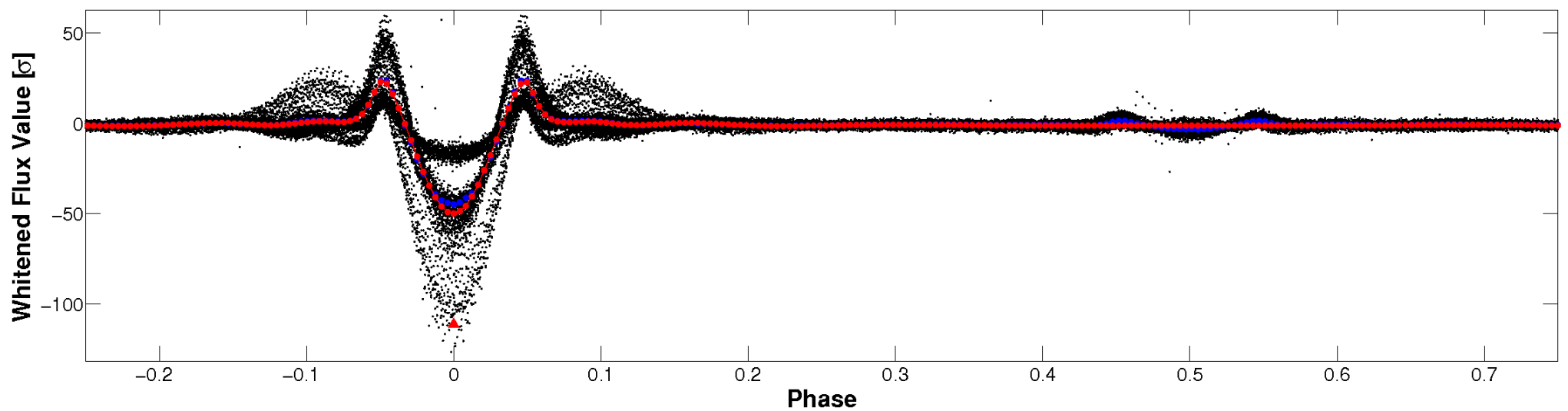


# Non-Whitened Vs. Whitened Light Curve

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

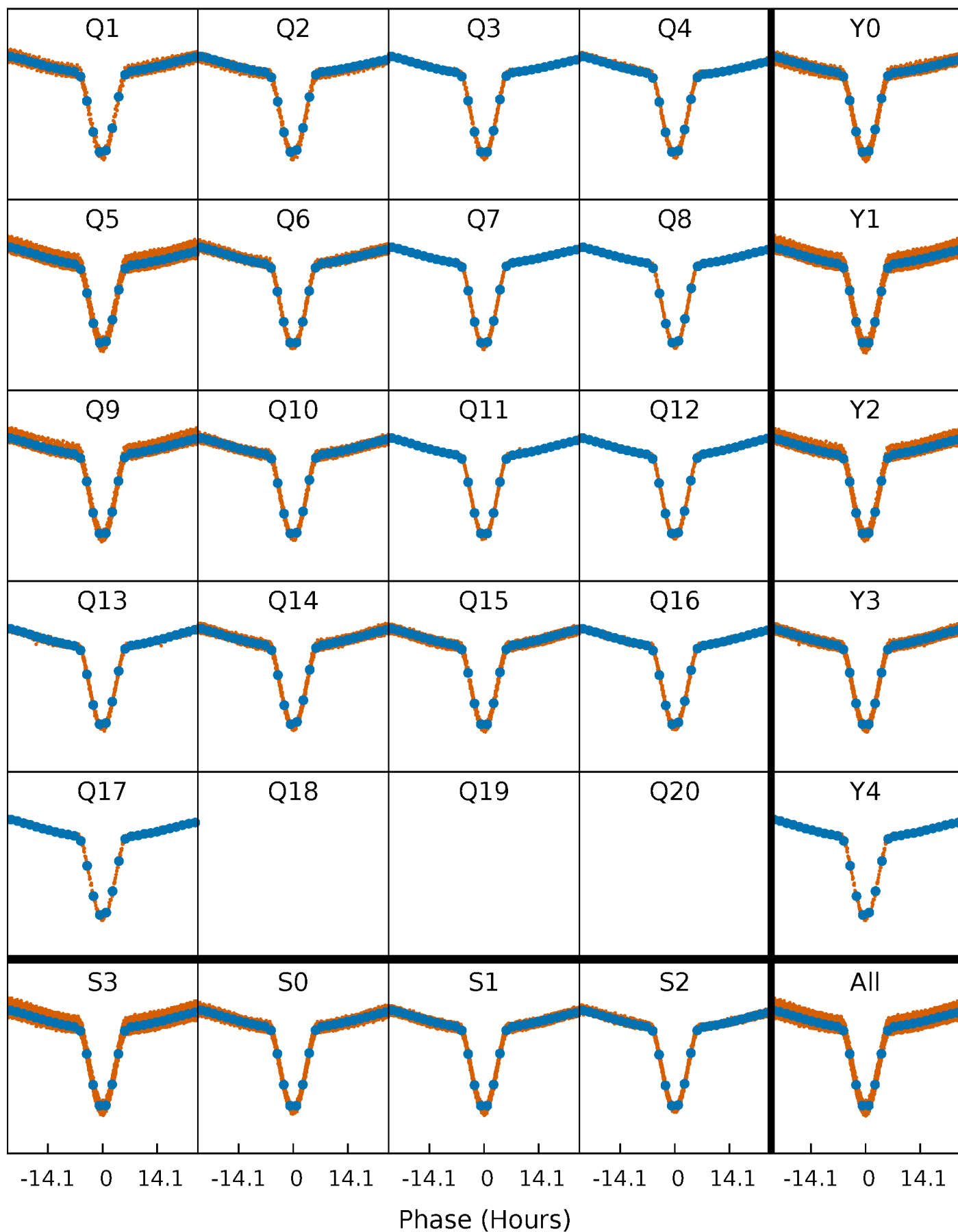


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

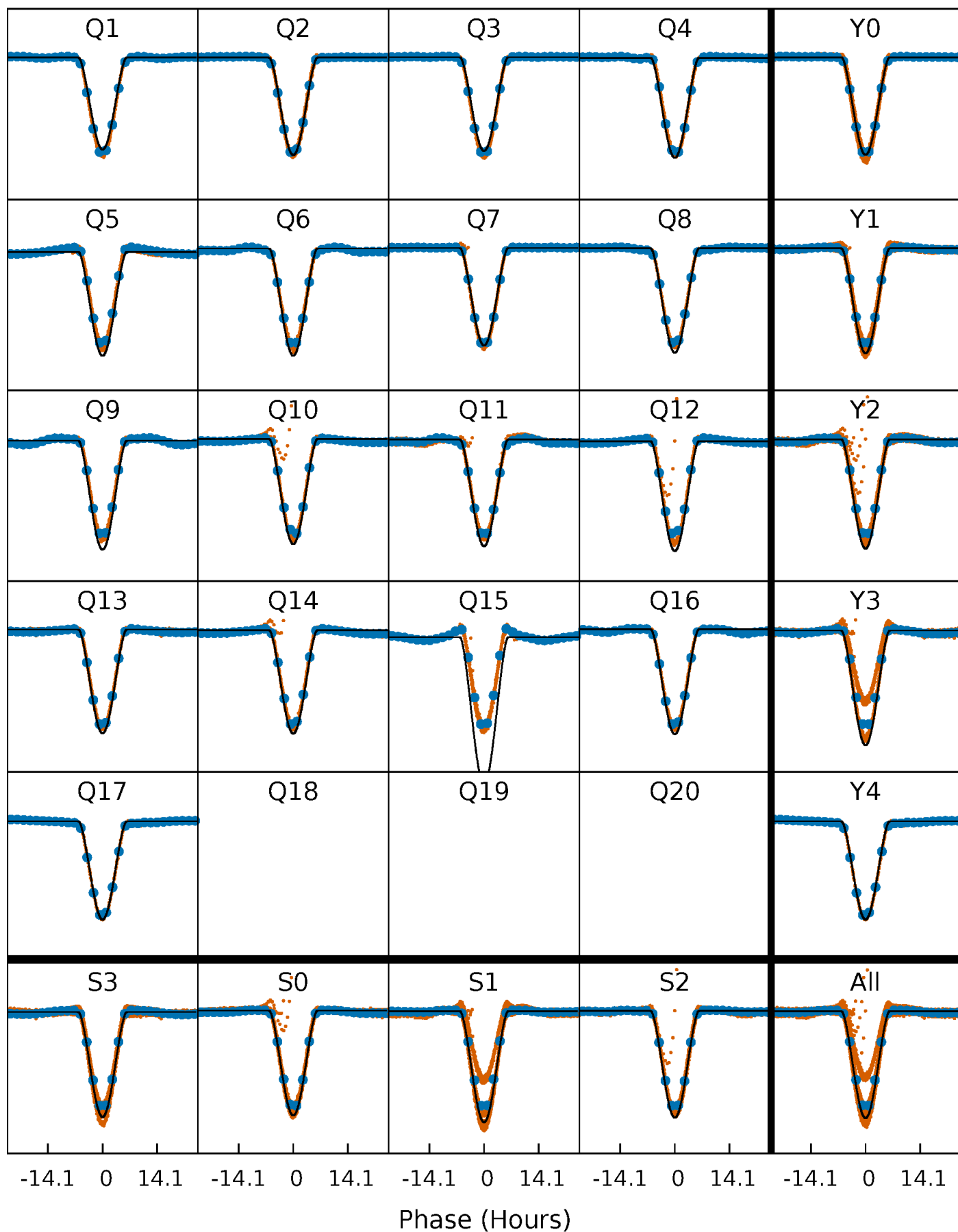
TCE 005310435-01 P= 4.931359 Days  $T_0=133.154761$  (BKJD)





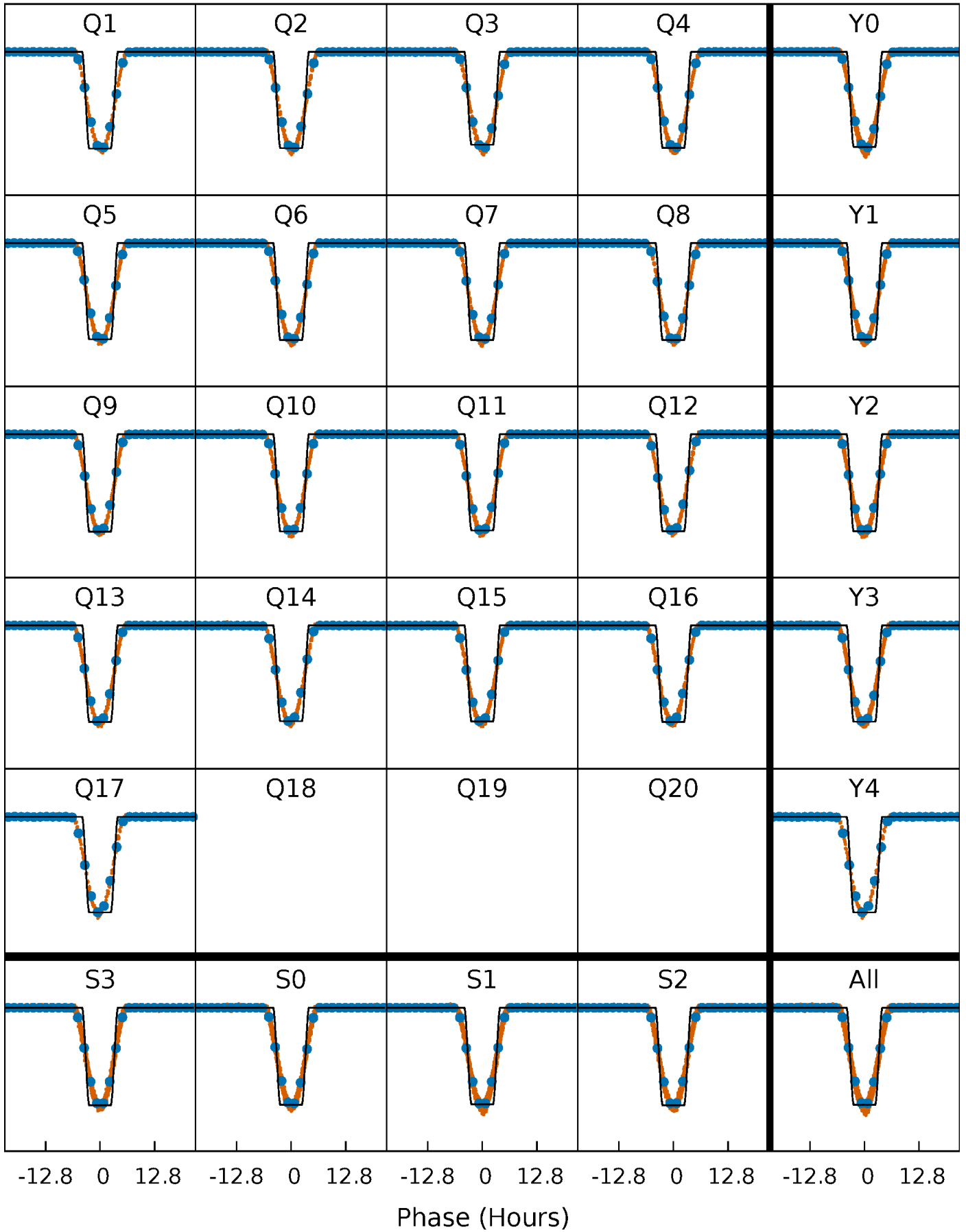
# DV Quarter-Phased Transit Curves

TCE 005310435-01 P= 4.931359 Days  $T_0=133.154761$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

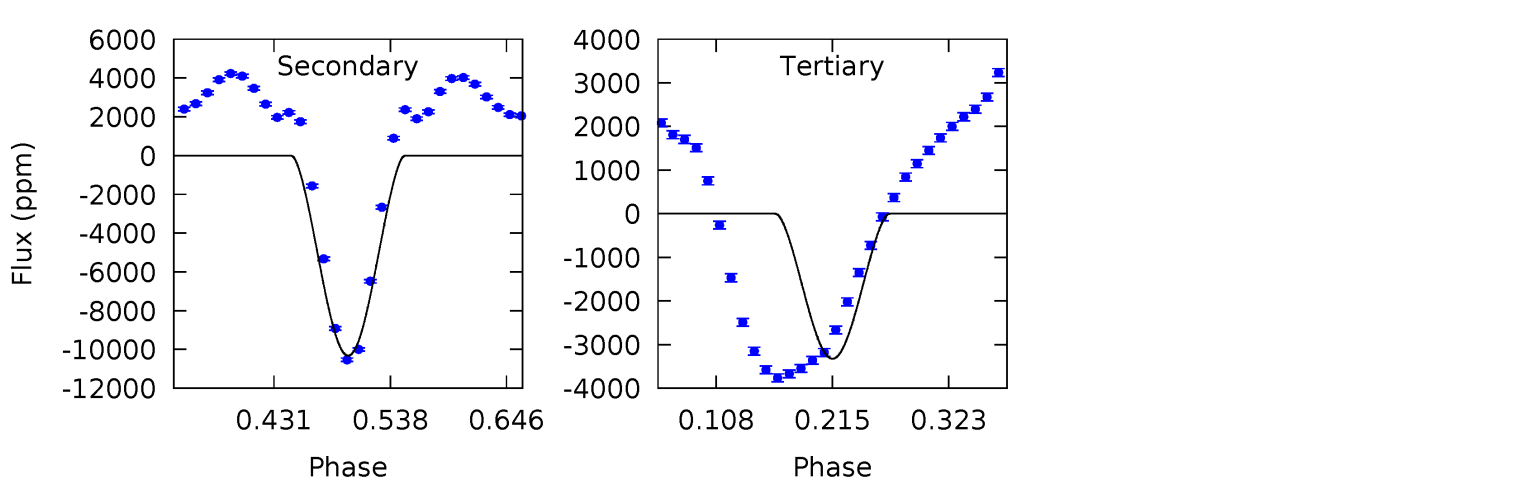
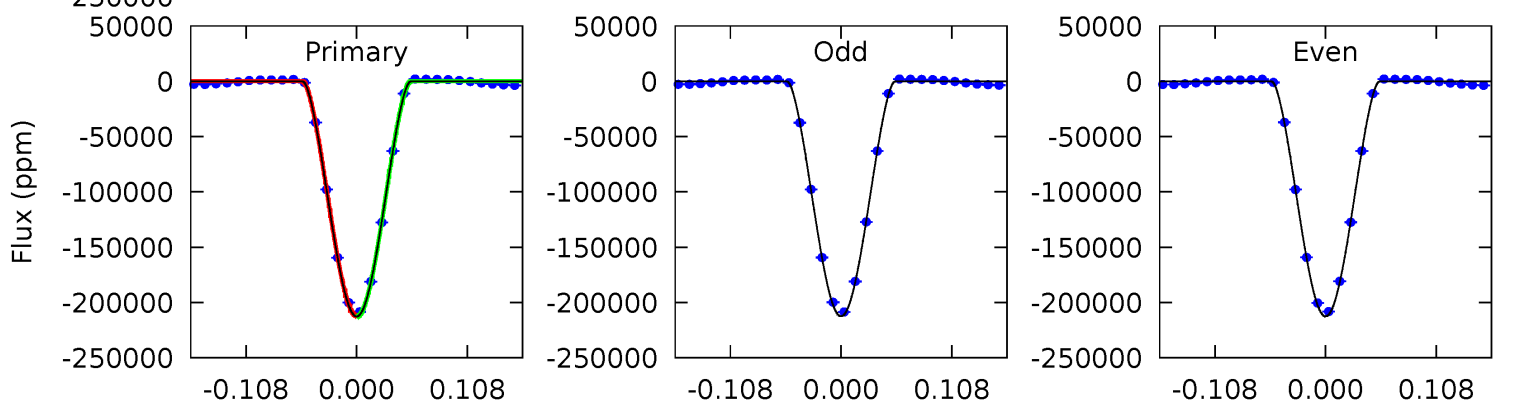
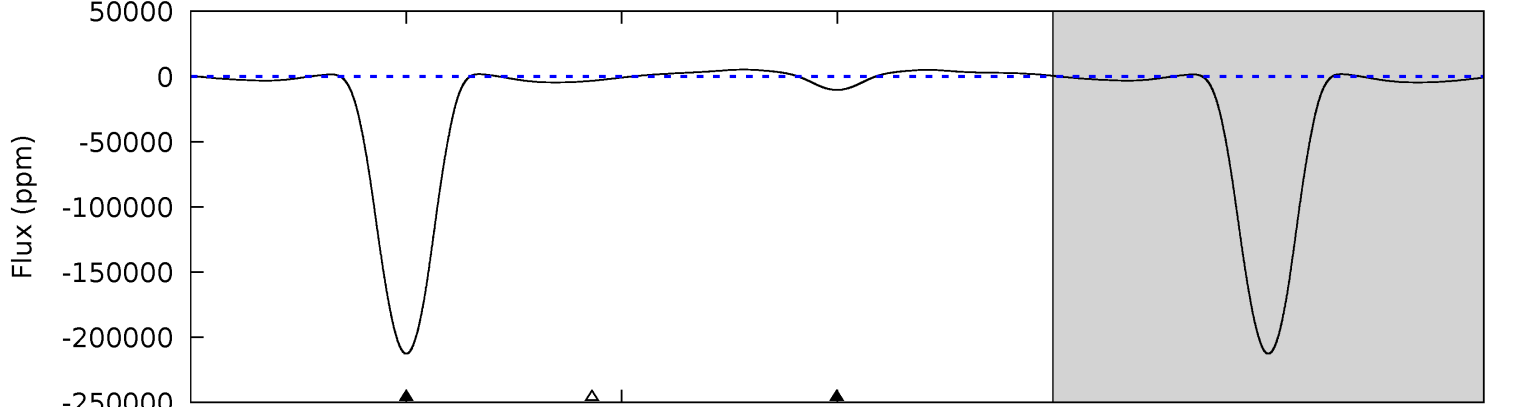
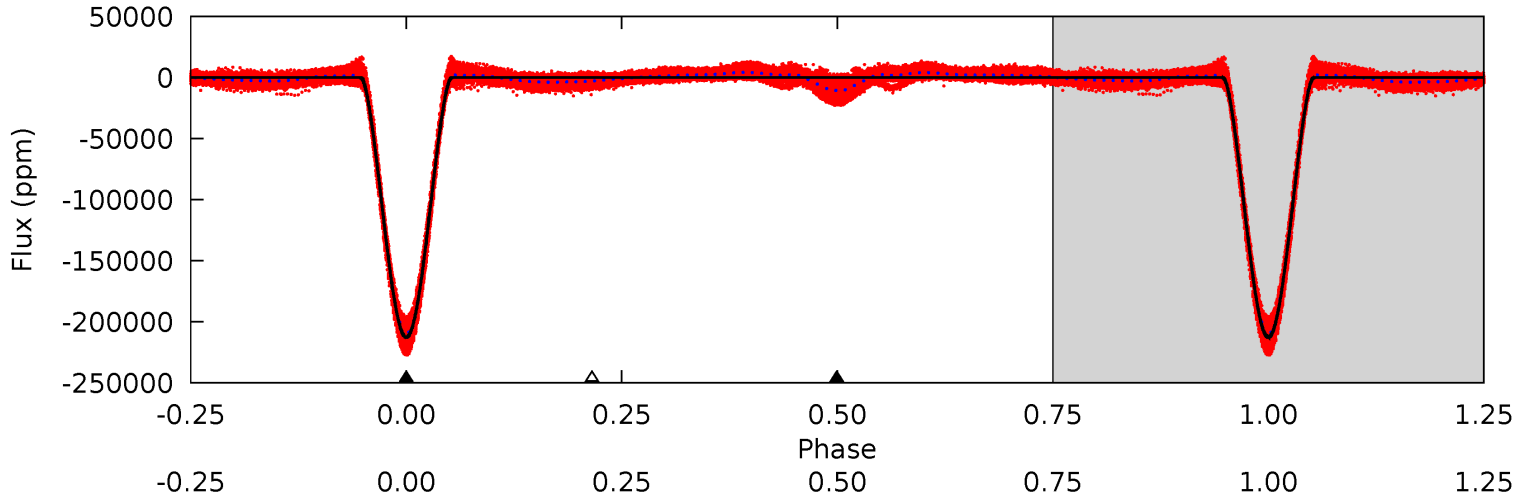
TCE 005310435-01 P= 4.931433 Days  $T_0=133.143026$  (BKJD)



# DV Model-Shift Uniqueness Test

005310435-01, P = 4.931359 Days, E = 128.223402 Days

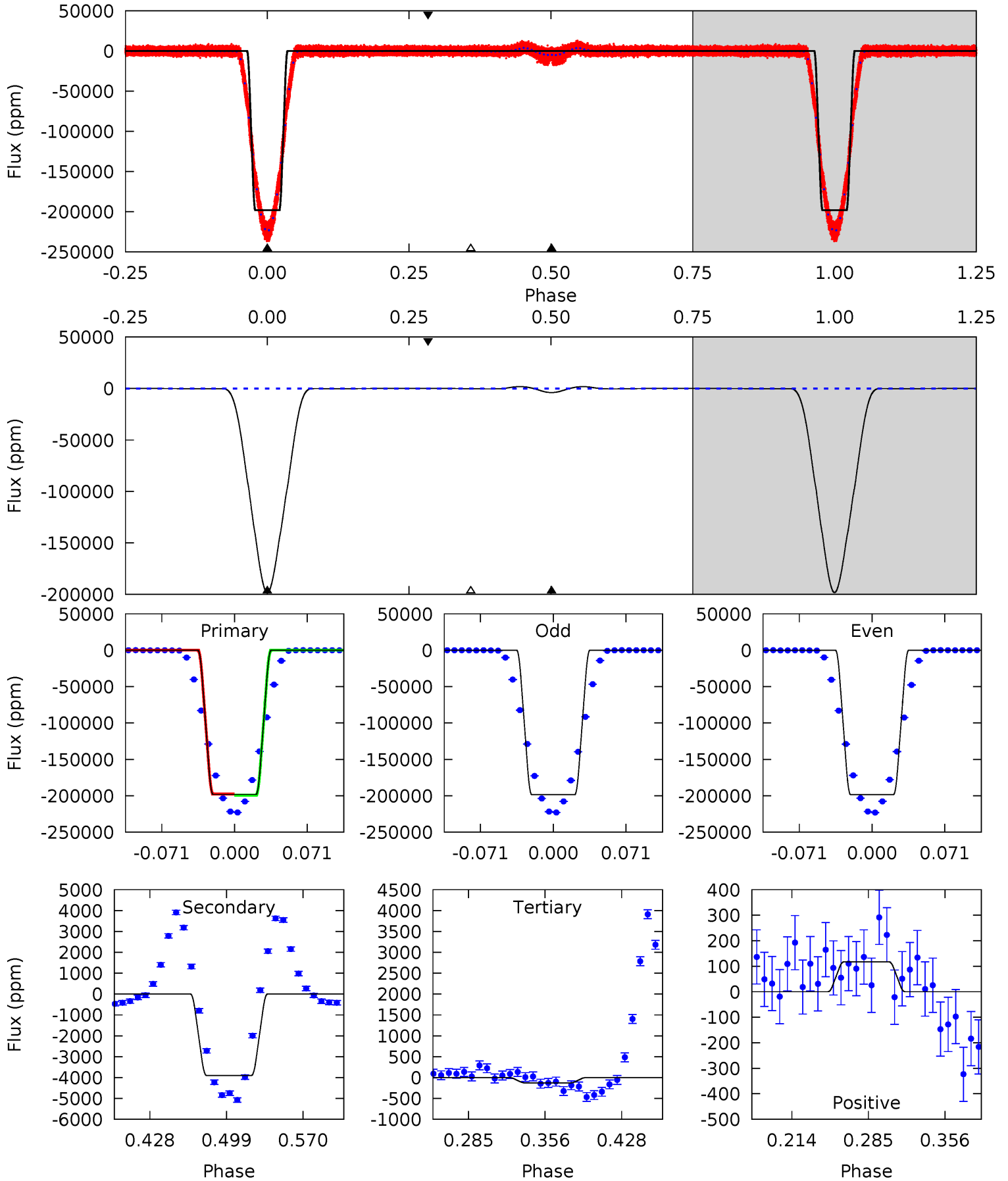
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4482	217.5	70.0	0	4.55	1.61	63.1	4412	4482	147.4	217.5	1.03	0.97	0.02	11.0



# Alt Model-Shift Uniqueness Test

005310435-01, P = 4.931433 Days, E = 128.211593 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
5250	103.2	3.41	3.10	4.64	1.80	5.13	5246	5246	99.8	100.1	1.35	1.01	0.01	19.9



### Stellar Parameters For KIC 005310435

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6562^{+210}_{-257}$	$3.835^{+0.472}_{-0.118}$	$-0.400^{+0.300}_{-0.300}$	$2.263^{+0.463}_{-1.080}$	$1.279^{+0.188}_{-0.259}$	$0.155^{+0.719}_{-0.054}$
	+3%/-4%	+12%/-3%	+75%/-75%	+20%/-48%	+15%/-20%	+463%/-35%
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 005310435-01 / KOI 6564.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-10318 \pm 47$	$175.52^{+25.24}_{-46.21}$	$2382^{+181}_{-303}$	$2854^{+116}_{-107}$	$0.709^{+0.544}_{-0.150}$
Alt.	$-3898 \pm 38$	$111.86^{+16.22}_{-28.82}$	$2385^{+186}_{-307}$	$2794^{+123}_{-106}$	$0.651^{+0.471}_{-0.134}$

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

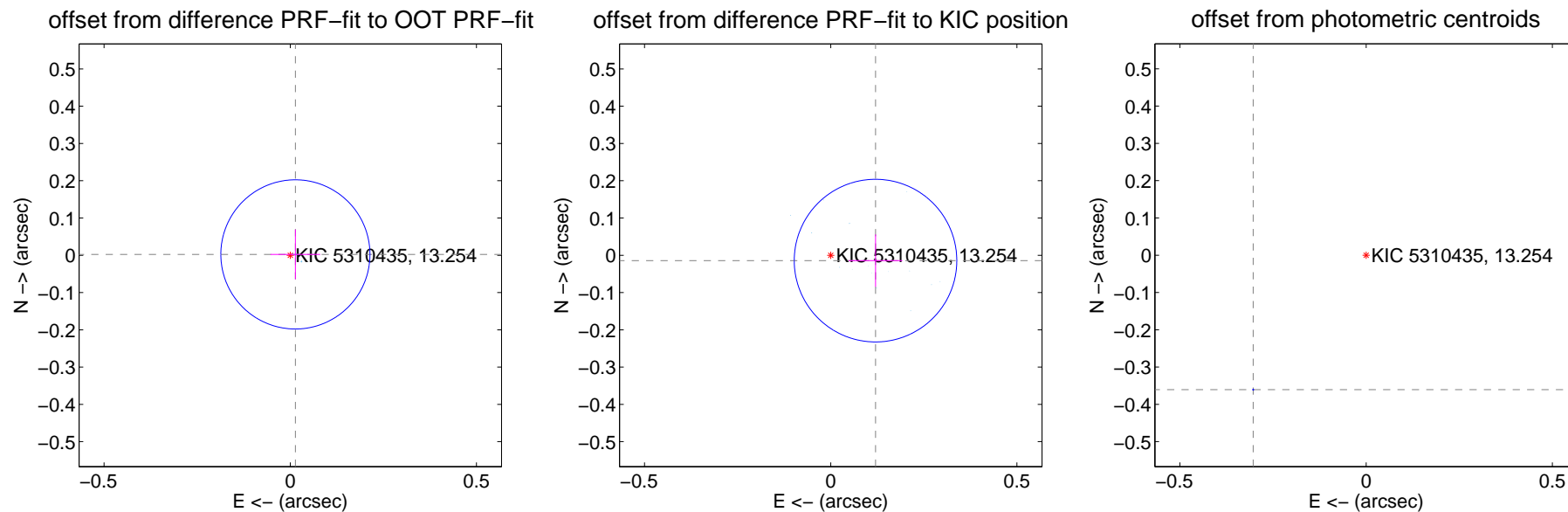
## DV Centroid Data

Supplemental centroid analysis for 005310435-01. Kepler magnitude: 13.25. Transit SNR 1992.09

There are 17 quarters with good PRF difference image offsets

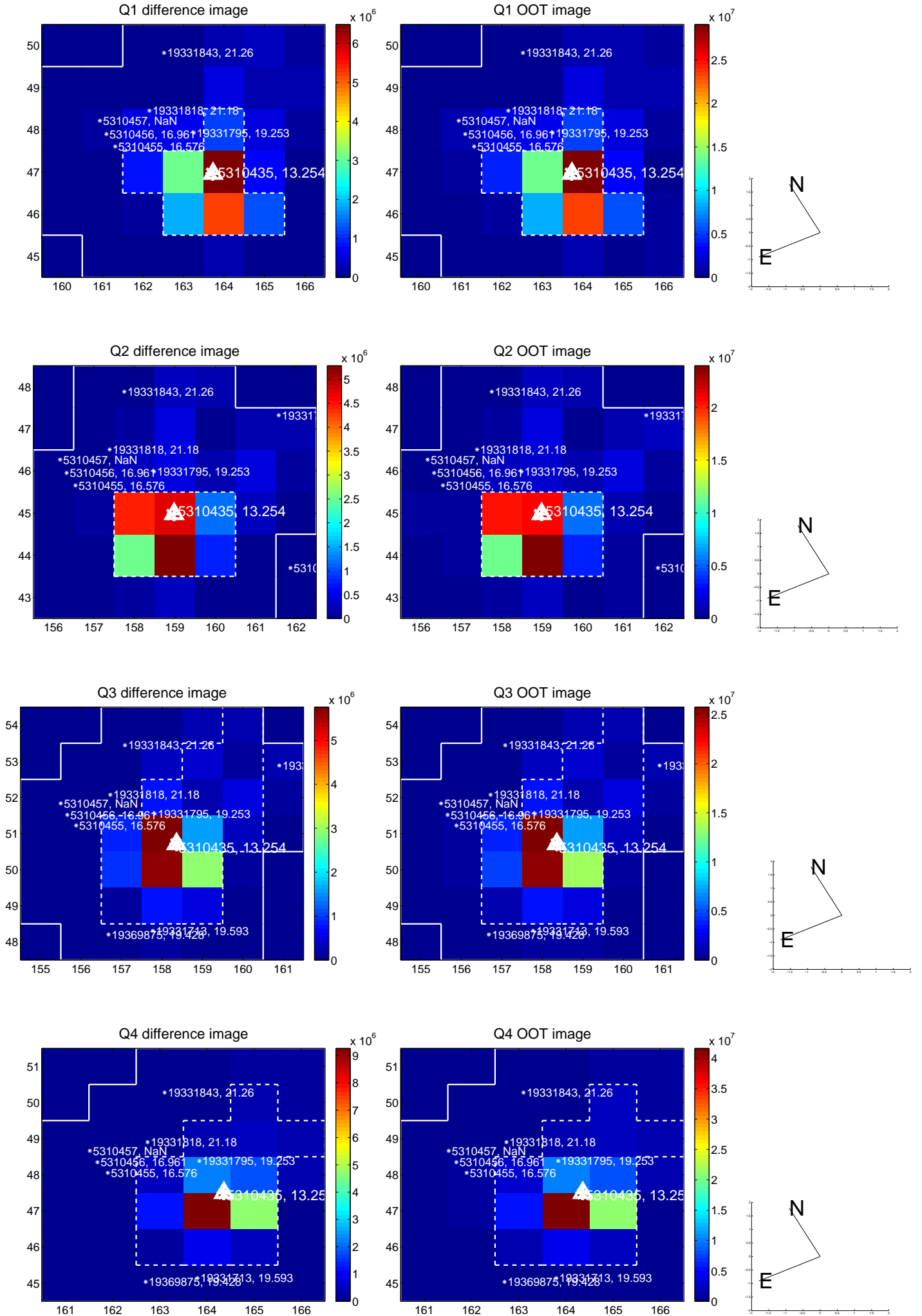
The direct PRF centroid is offset from the target star catalog position by about 0.11 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.014 \pm 0.067$	0.21	$-0.014 \pm 0.067$	$0.002 \pm 0.067$
PRF-fit source offset from KIC position	$0.121 \pm 0.073$	1.67	$-0.120 \pm 0.072$	$-0.014 \pm 0.070$
photometric centroid source offset	$0.47 \pm 0.00$	1032.22	$0.30 \pm 0.00$	$-0.36 \pm 0.00$

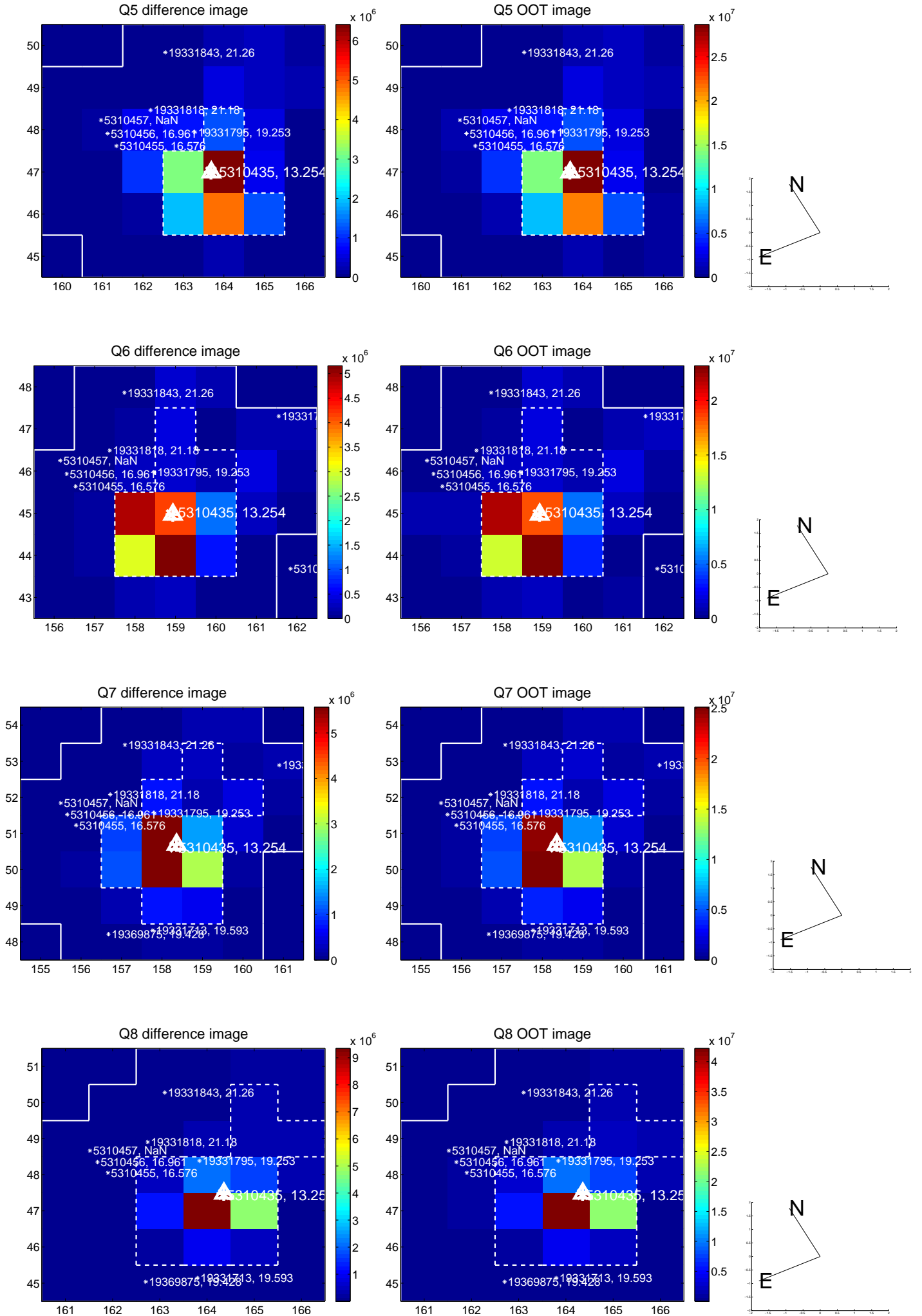


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

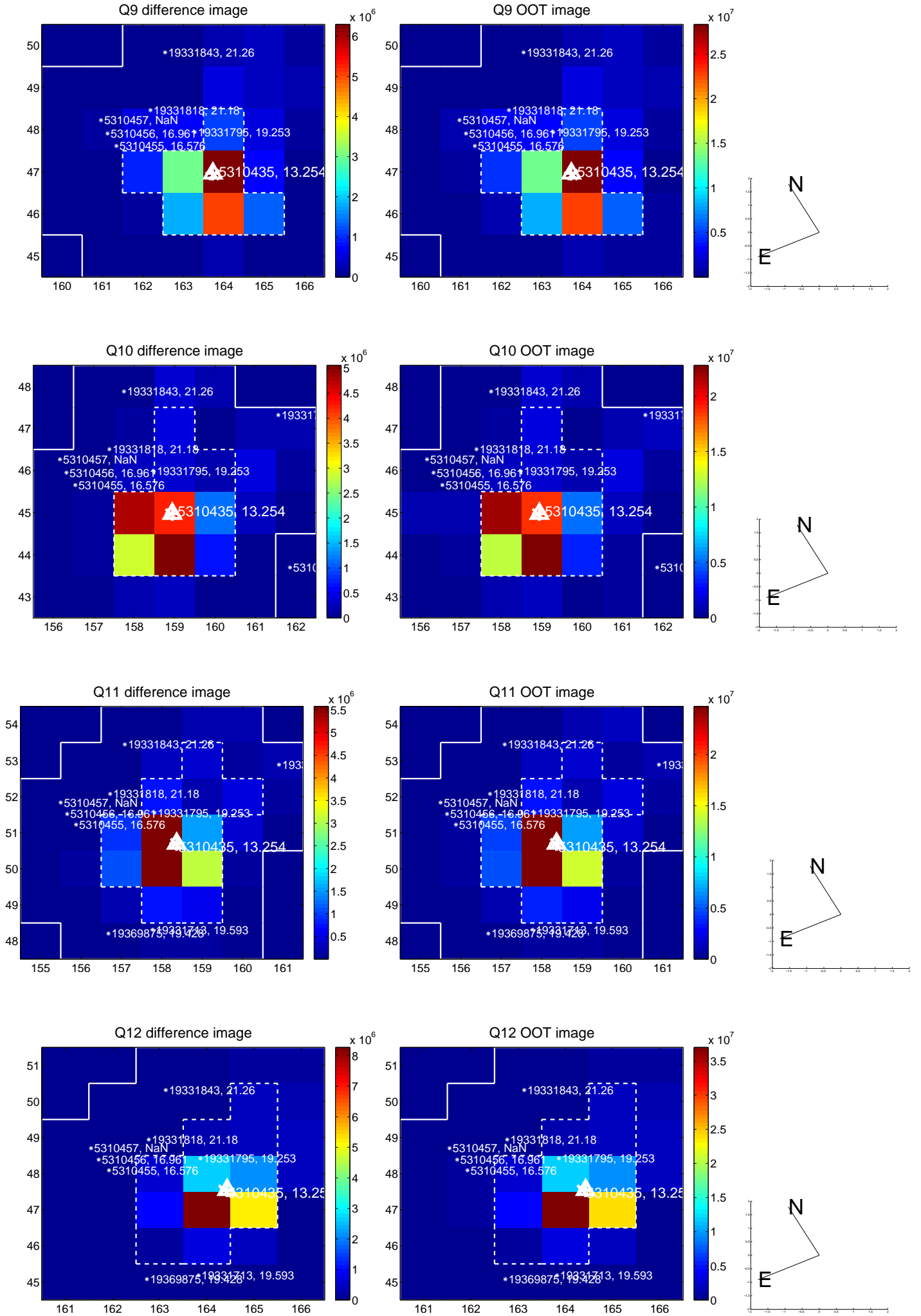


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

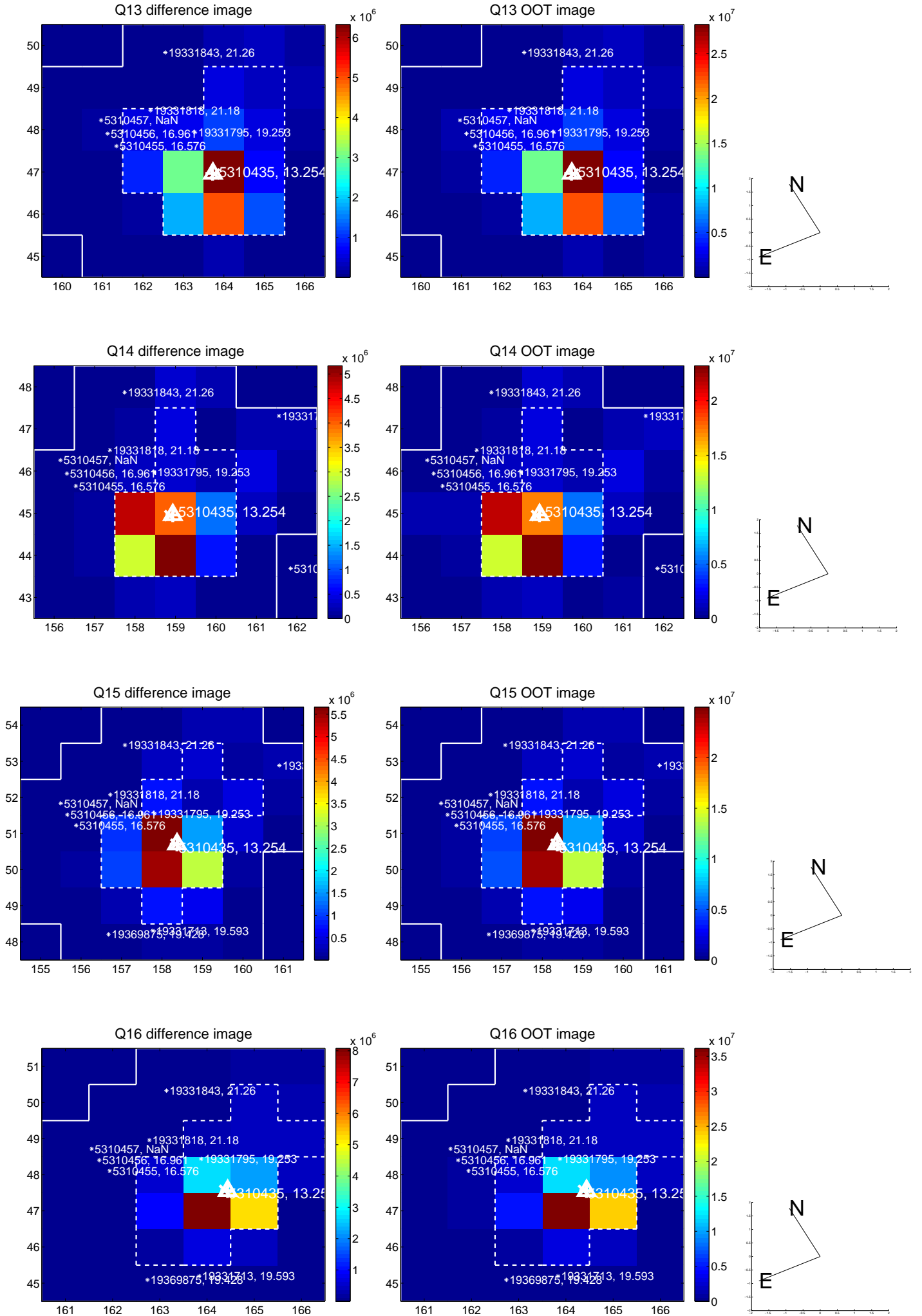




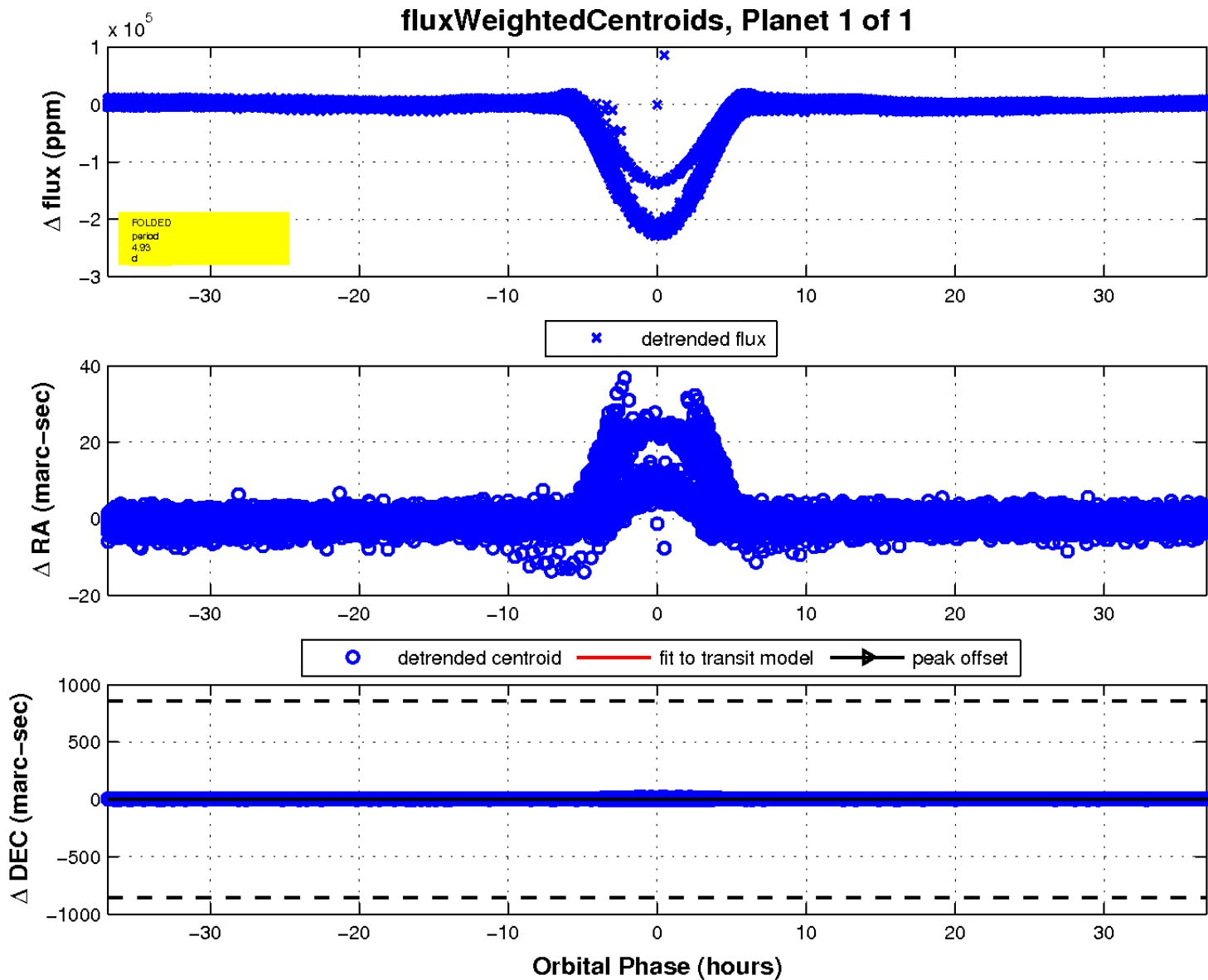
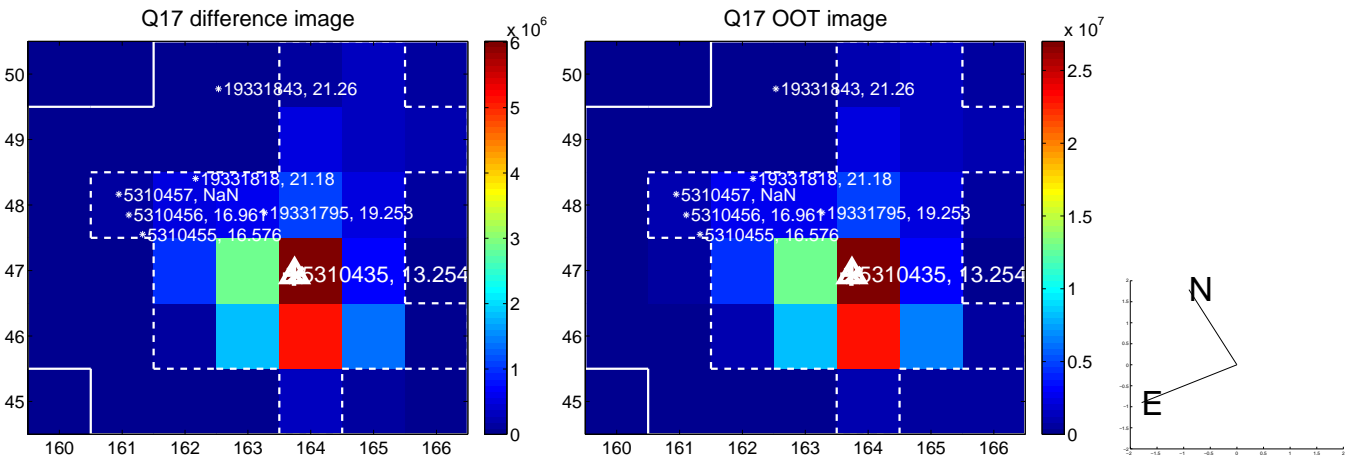
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

