

# KIC 003230787

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
003230787-01	OBS	6101.01	17.734021	143.922670	185935.0	7.301	12287.4	8650.3	1.55	5883	89.23	149.69

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
003230787-01	OBS	FP	0.00	0	1	0	0	MOD_ODDEVEN_ALT—DEEP_V_SHAPED—SEASONAL_DEPTH_DV—SEASONAL_DEPTH_ALT

**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.

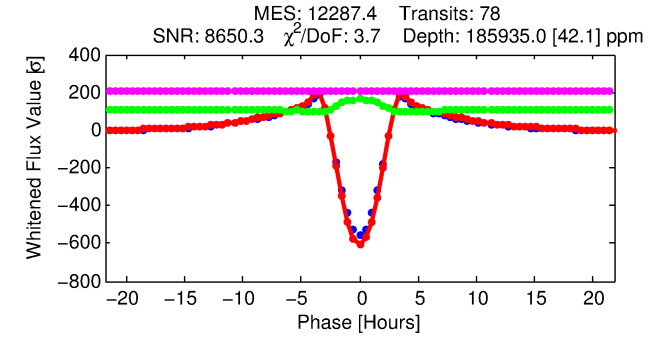
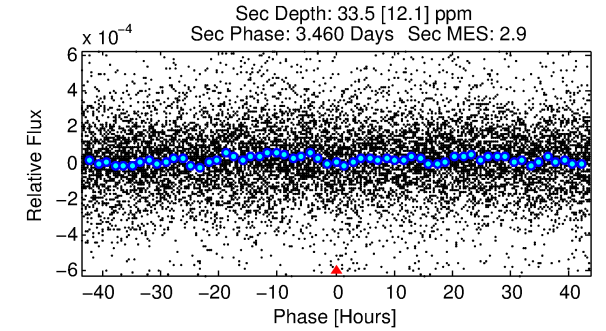
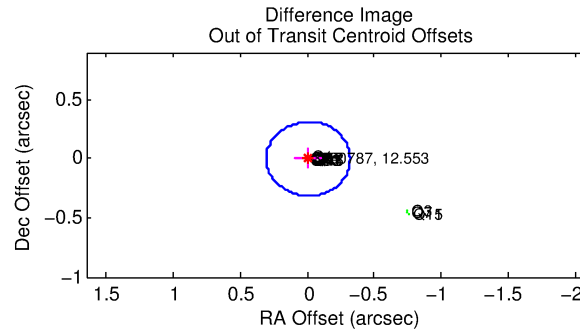
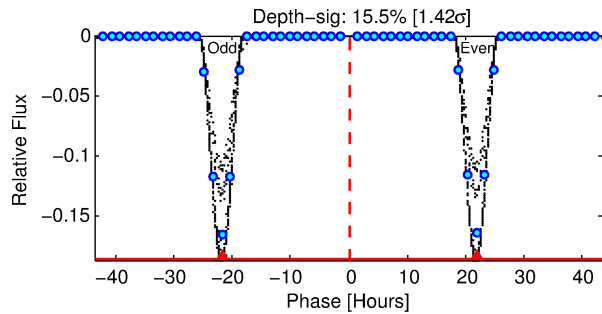
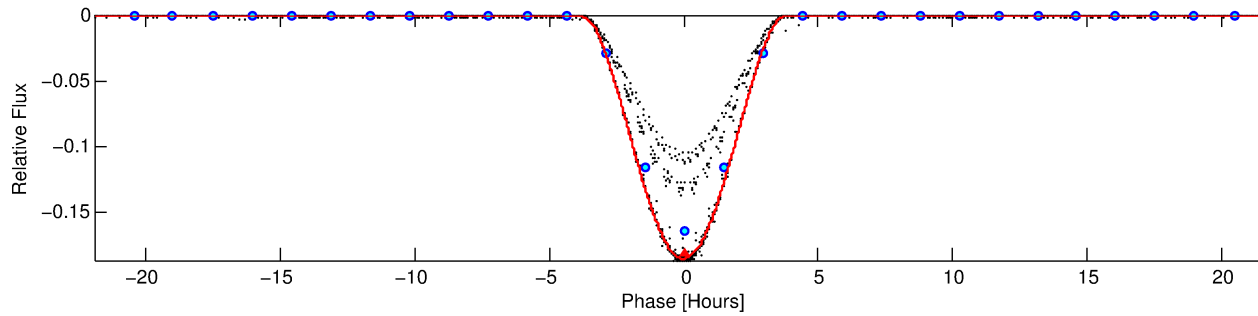
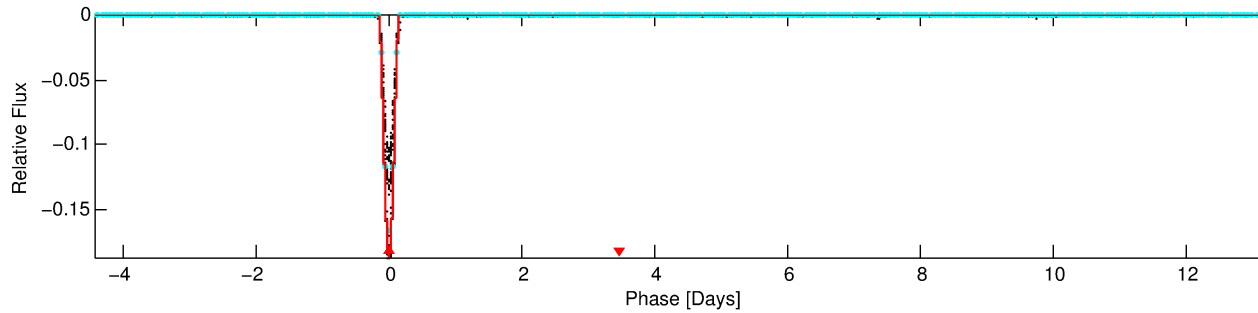
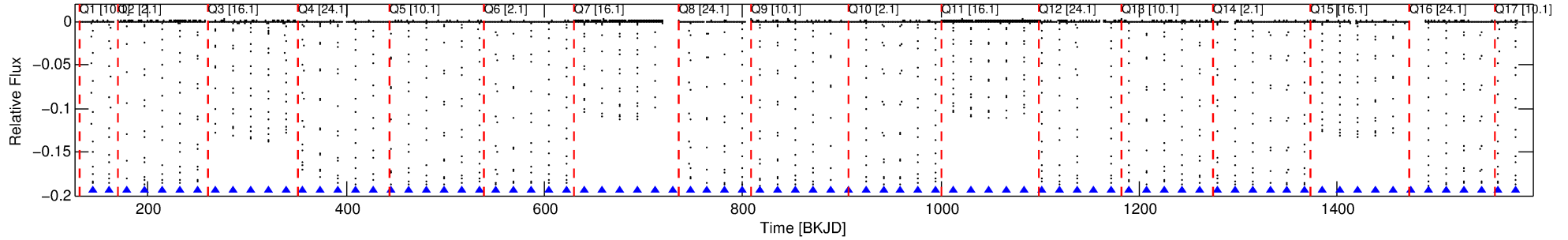
## Ephemeris Match Information For 003230787-01

No Significant Match Found

# DV One-Page Summary

KIC: 3230787 Candidate: 1 of 1 Period: 17.734 d  
KOI: K06101.01 Corr: 0.999

Kp: 12.55 R\*: 1.55 Rs Teff: 5883.0 K Logg: 4.04 Fe/H: -0.280



## DV Fit Results:

Period = 17.73402 [0.00000] d  
Epoch = 143.9227 [0.0000] BKJD  
Rp/R\* = 0.5262 [0.0132]  
a/R\* = 24.13 [0.06]  
b = 0.80 [0.02]  
Seff = 149.69 [73.01]  
Teq = 892 [109] K  
Rp = 89.24 [27.20] Re  
a = 0.1316 [0.0389] AU  
Ag = 0.04 [0.02] [-39.92σ]  
Teffp = 617 [59] K [-2.22σ]

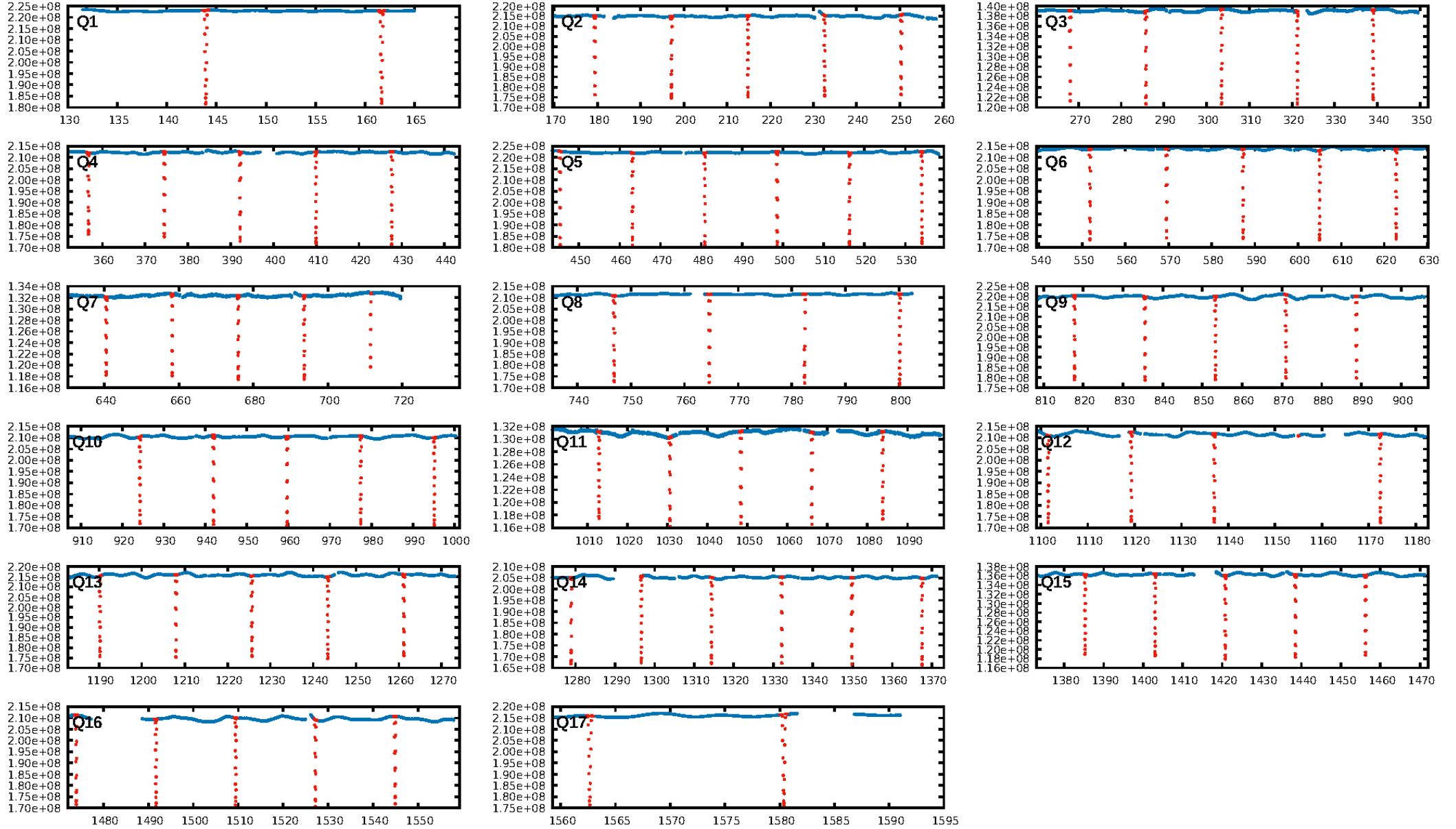
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGof-sig: 0.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-figt: 1.00 [74/74]  
GhostDiagnostic-chr: 1.548  
Centroid-sig: 0.0%  
Centroid-so: 0.500 arcsec [1073.26σ]  
OotOffset-rm: 0.007 arcsec [0.07σ]  
KicOffset-rm: 0.258 arcsec [1.13σ]  
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]

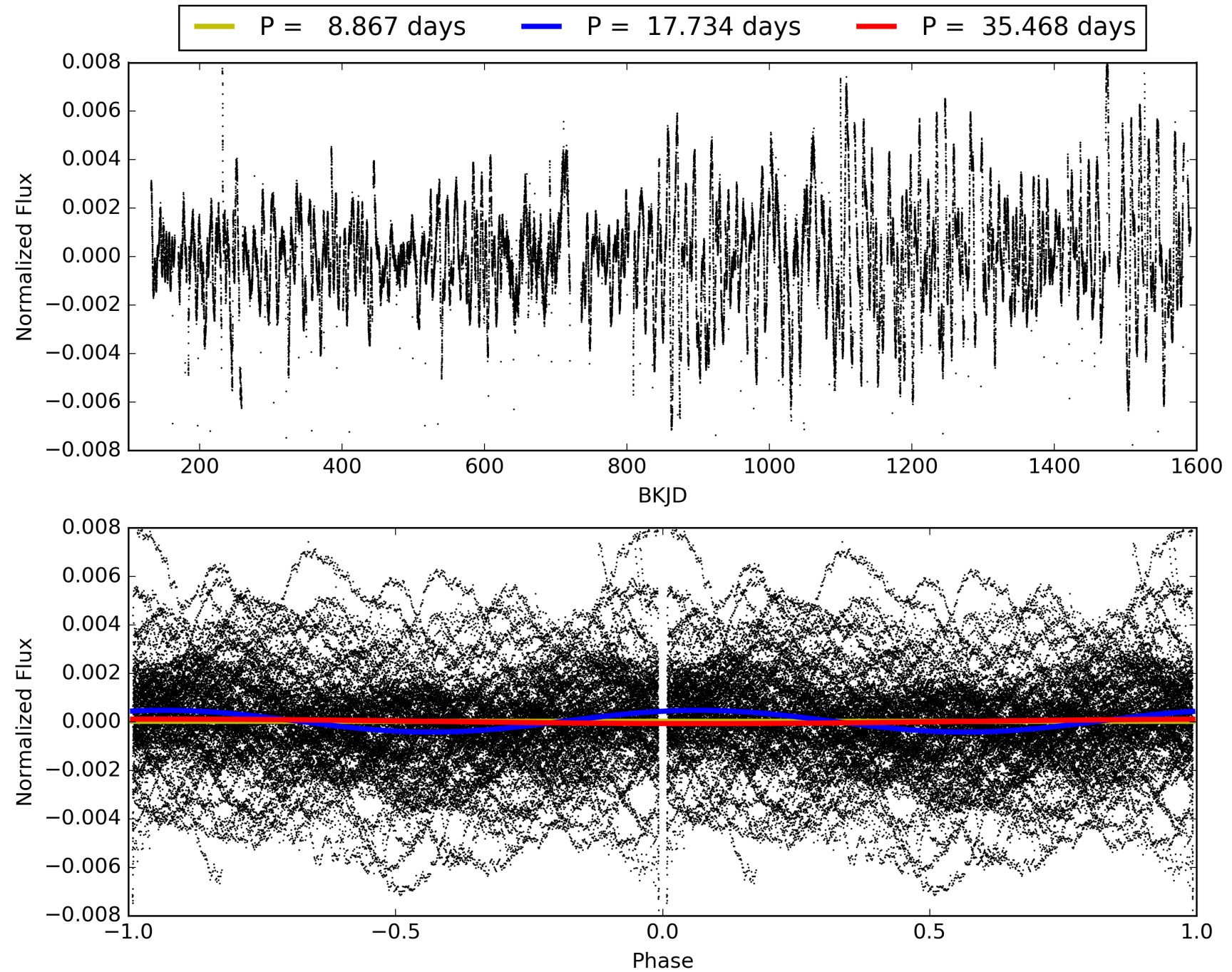
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 03:49:03 Z

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

# TCE 003230787-01, PDC Light Curves

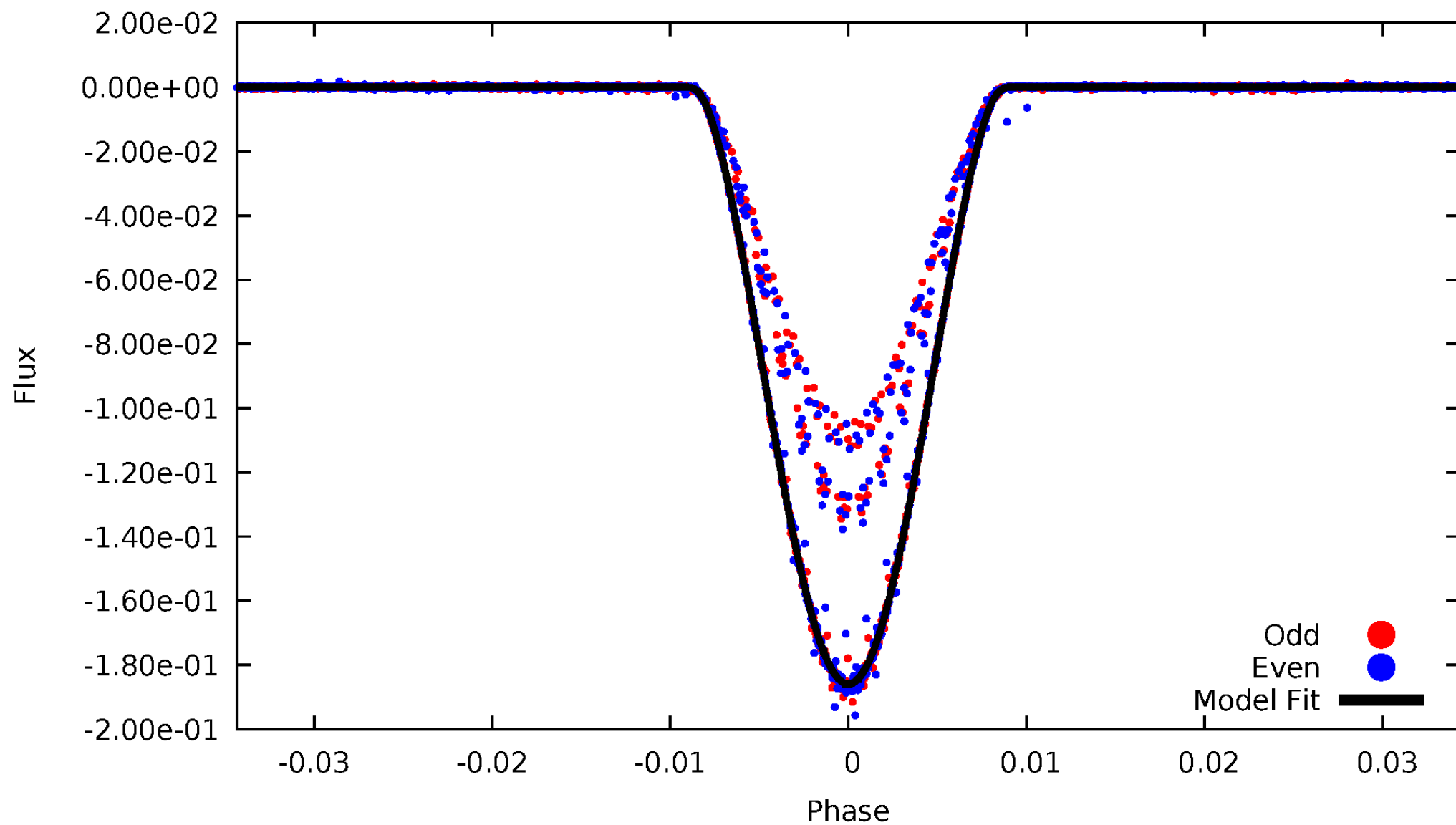


TCE 003230787-01



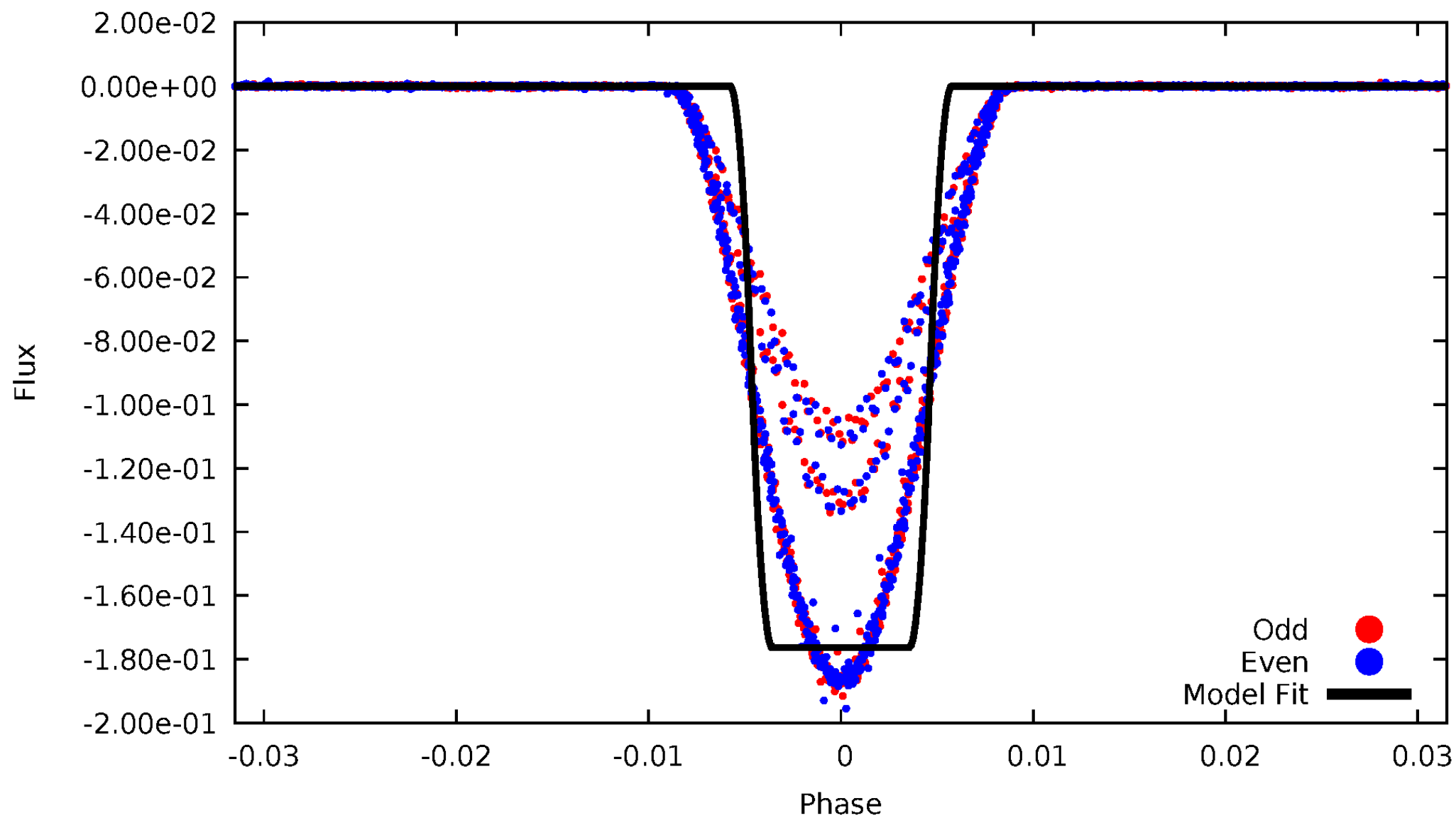
# DV Odd/Even

TCE 003230787-01



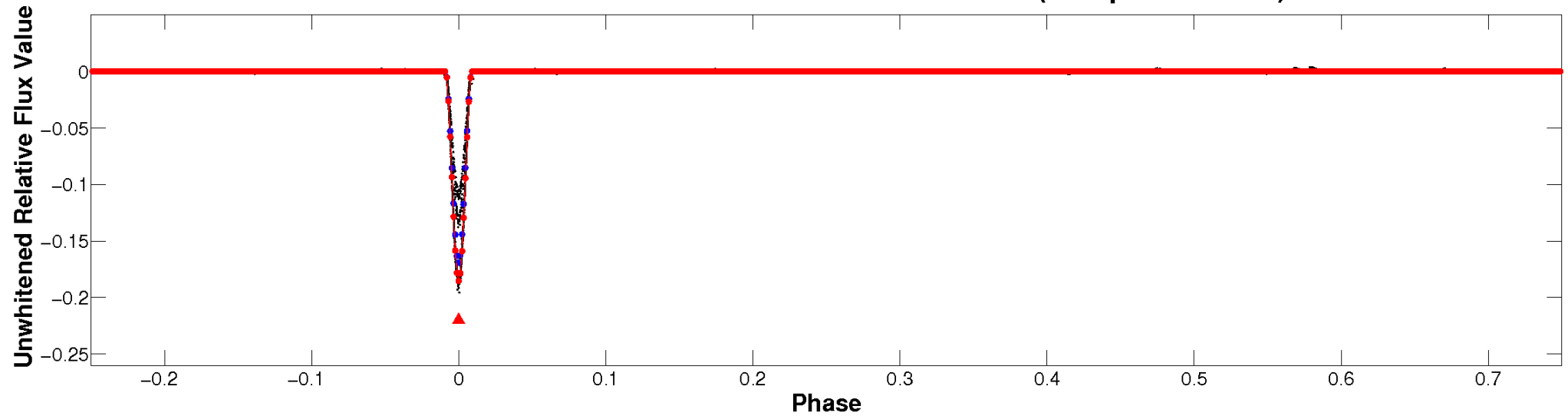
# ALT Odd/Even

TCE 003230787-01

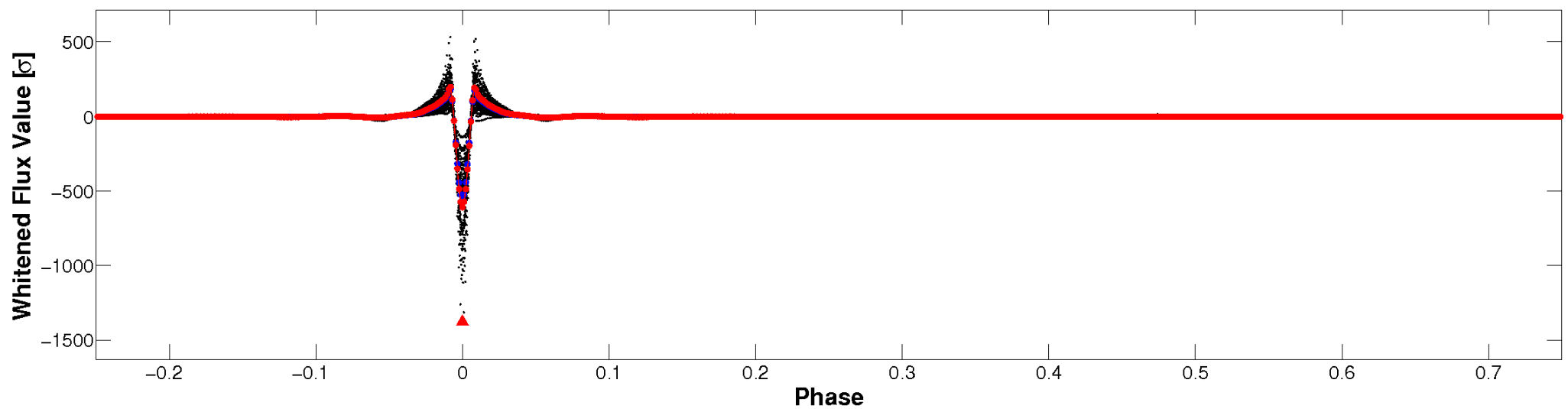


# Non-Whitened Vs. Whitened Light Curve

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

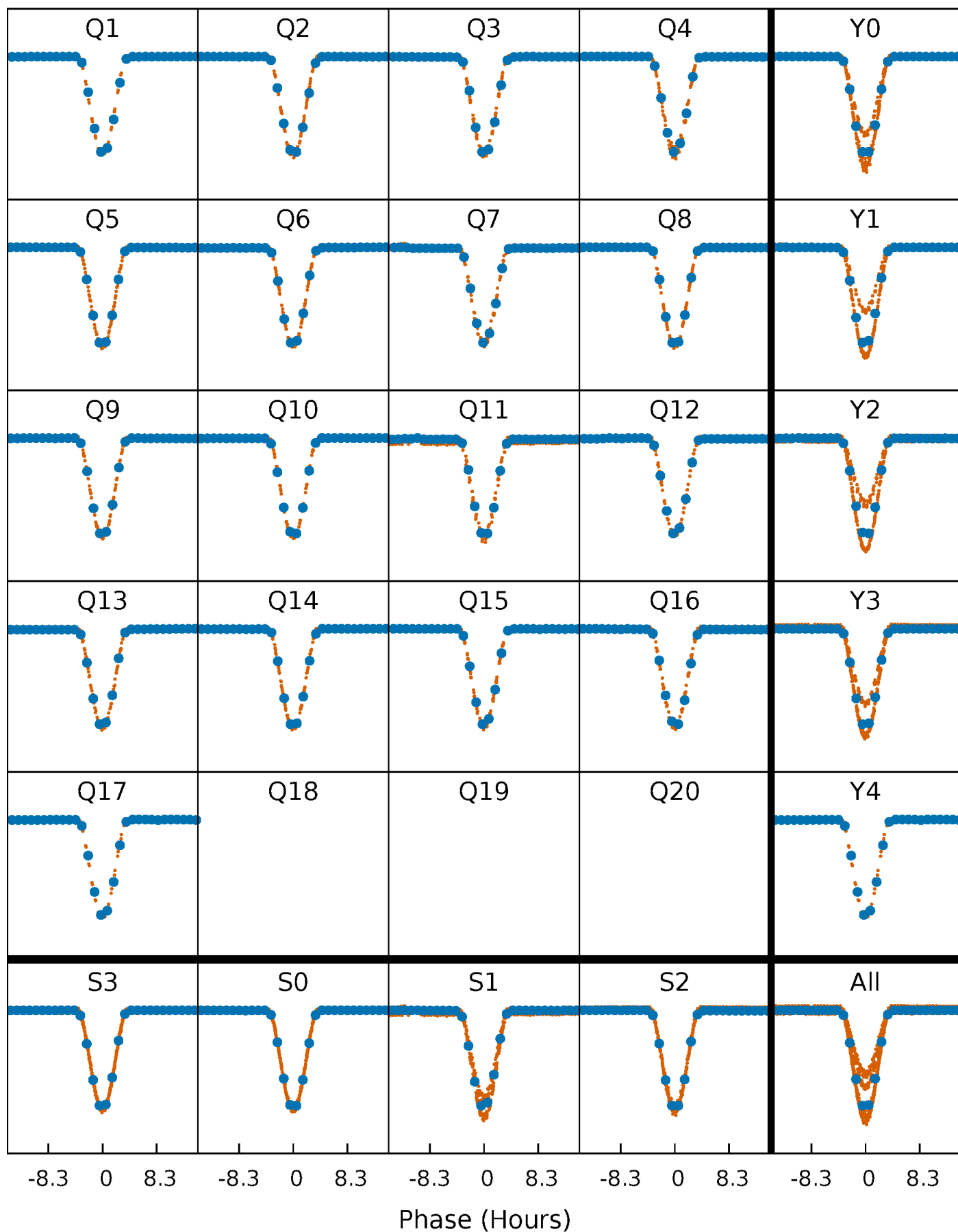


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

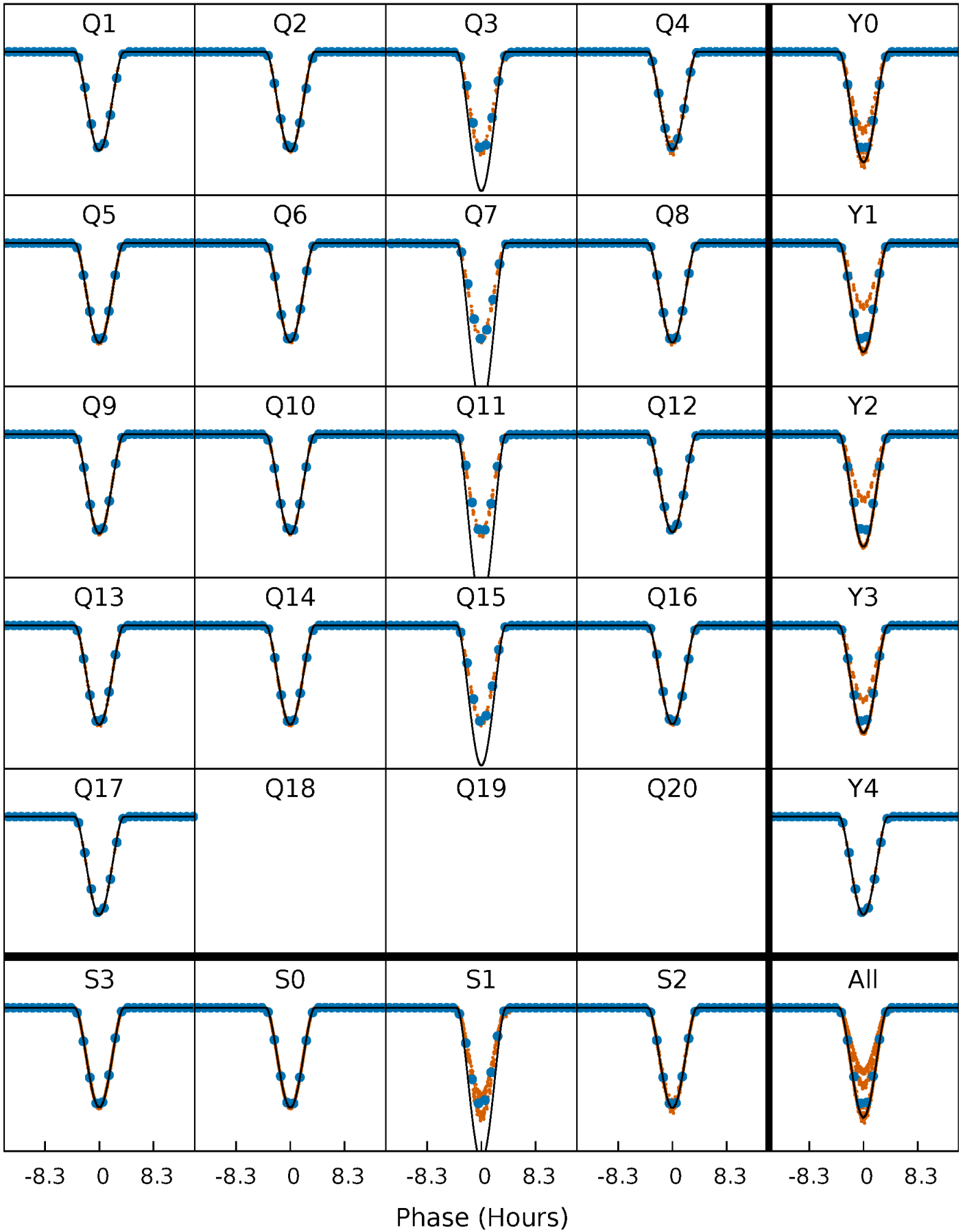
TCE 003230787-01 P= 17.734021 Days  $T_0=143.922670$  (BKJD)





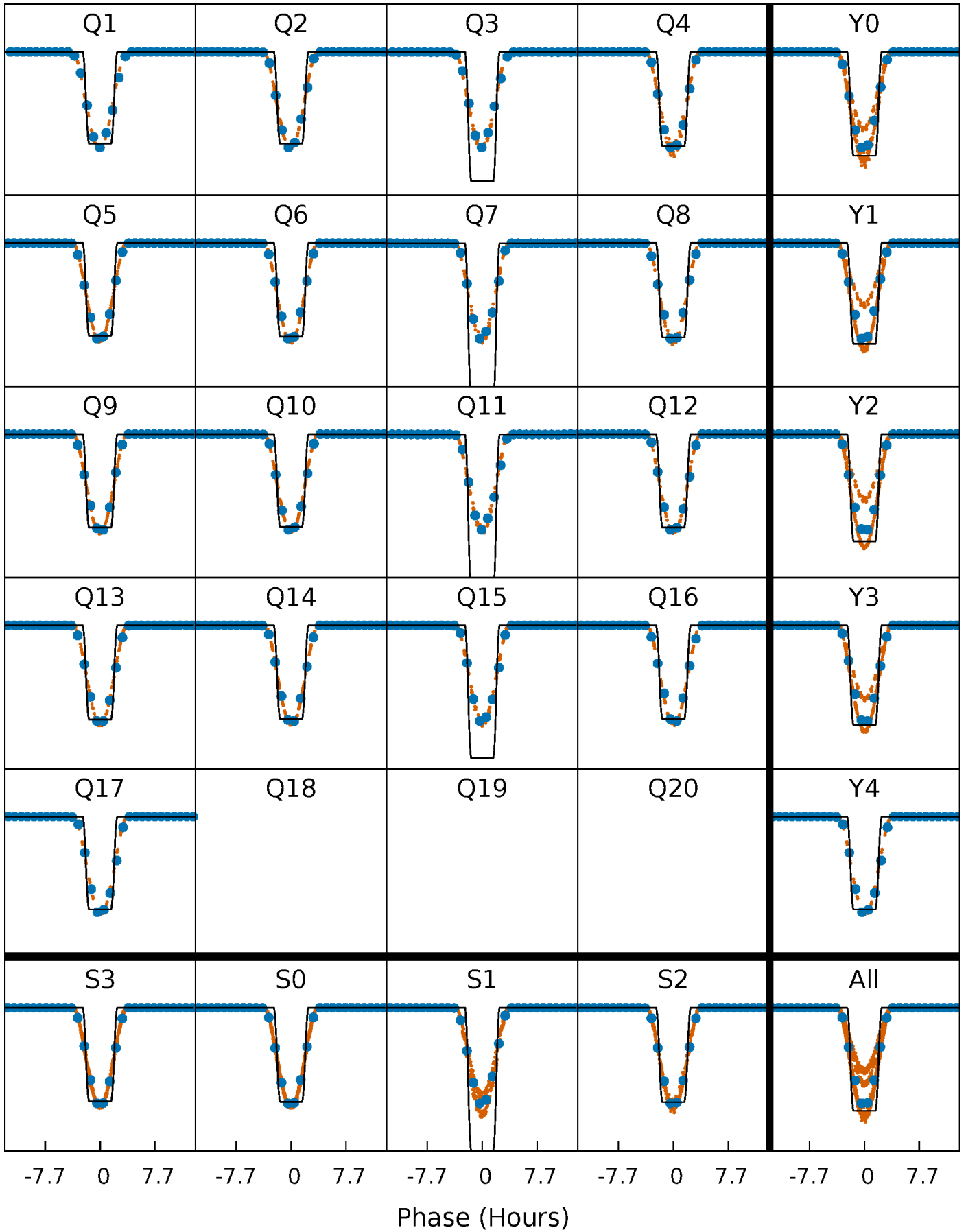
# DV Quarter-Phased Transit Curves

TCE 003230787-01 P= 17.734021 Days  $T_0=143.922670$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

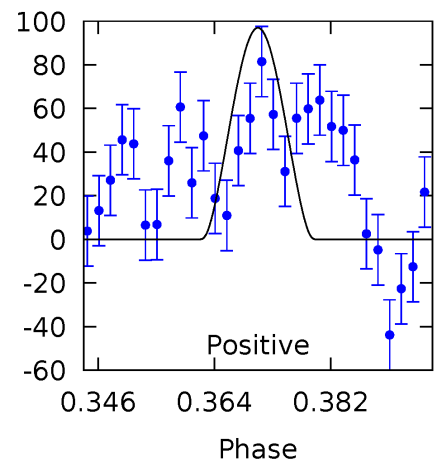
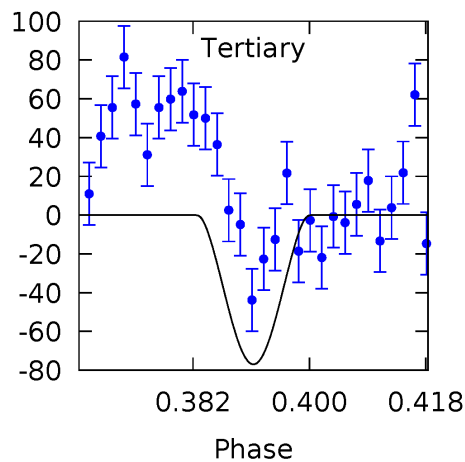
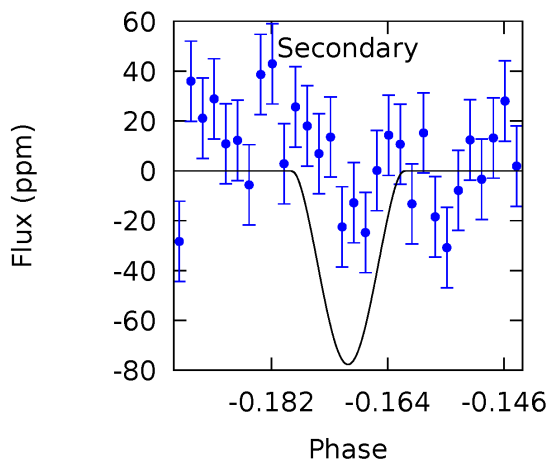
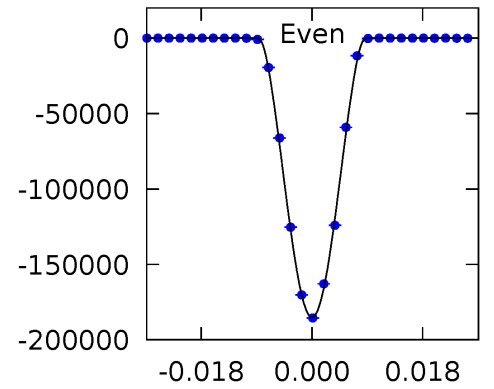
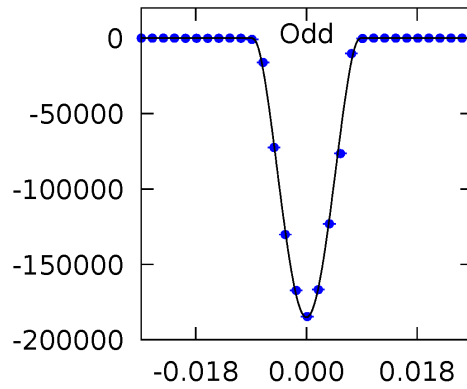
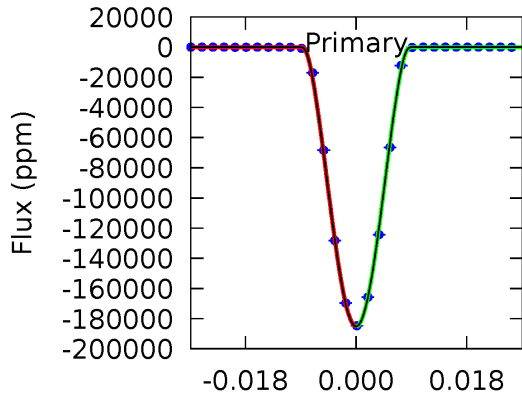
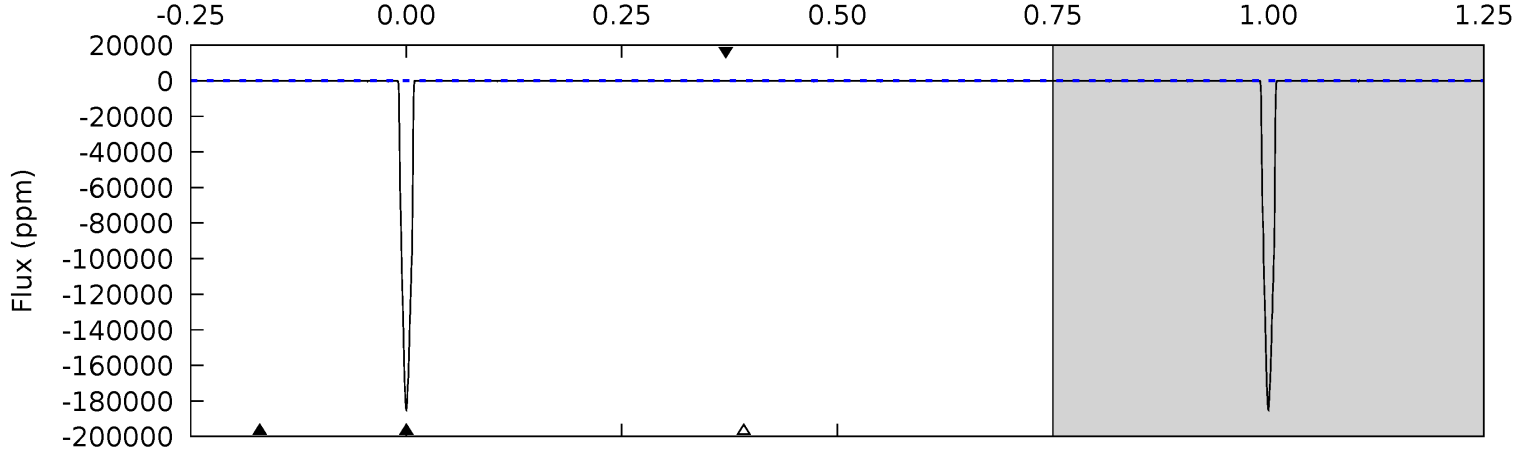
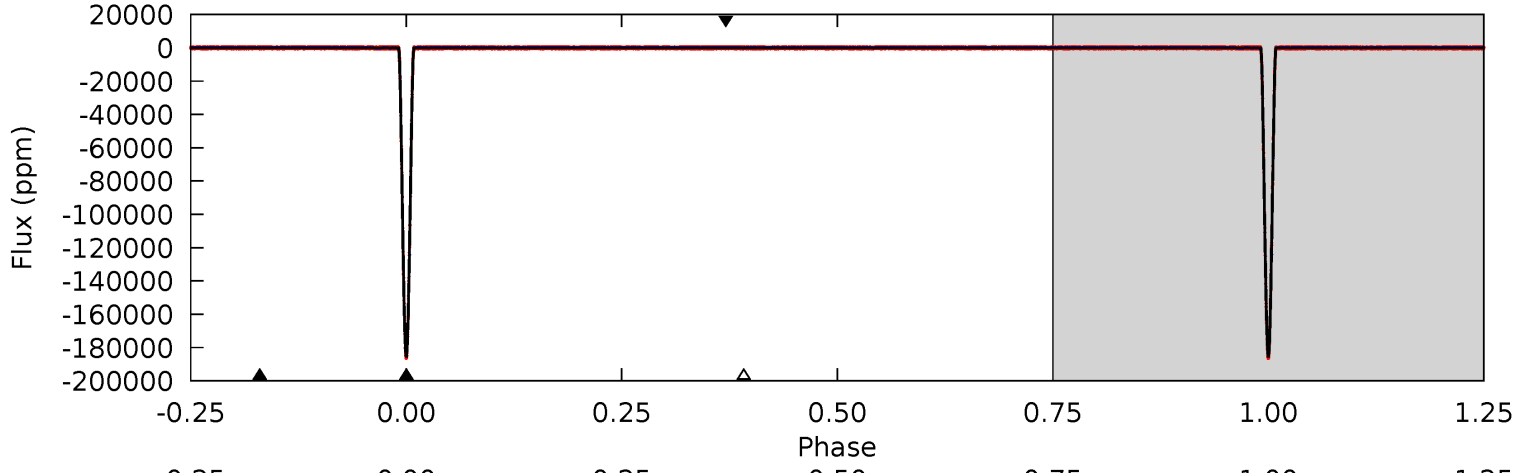
TCE 003230787-01 P= 17.733932 Days  $T_0=143.926331$  (BKJD)



# DV Model-Shift Uniqueness Test

003230787-01, P = 17.734021 Days, E = 126.188649 Days

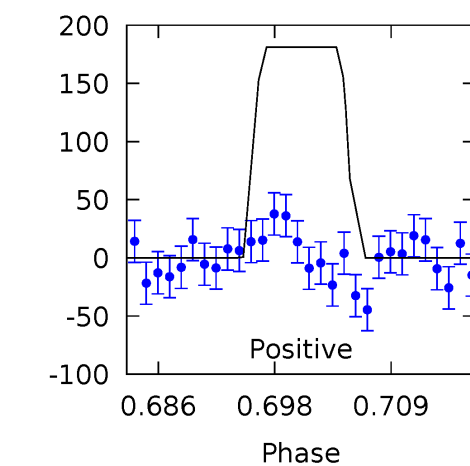
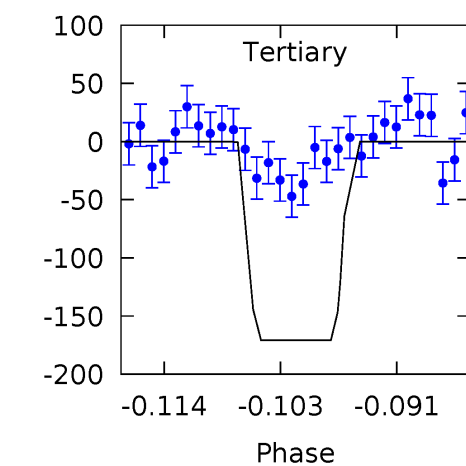
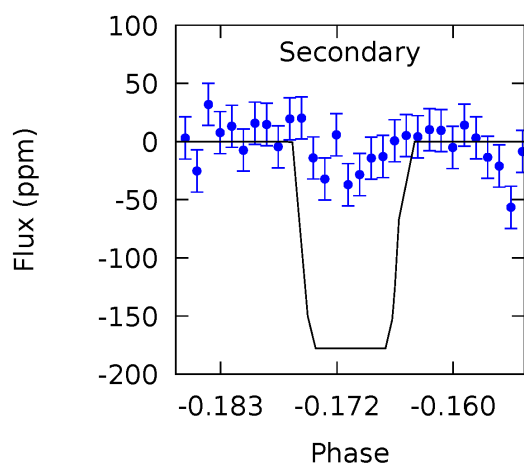
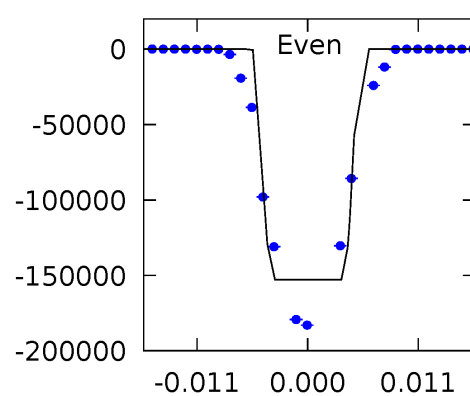
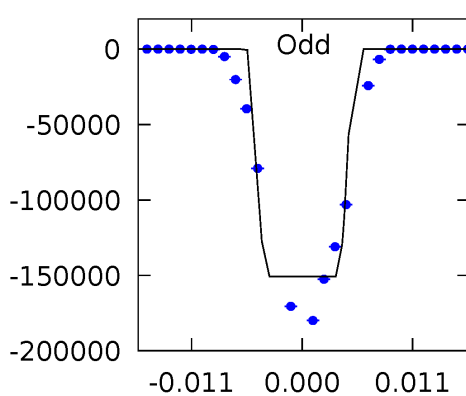
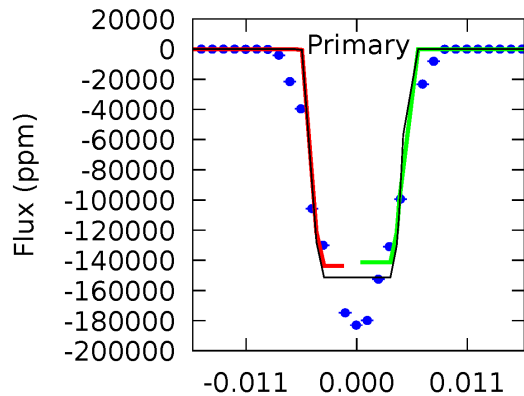
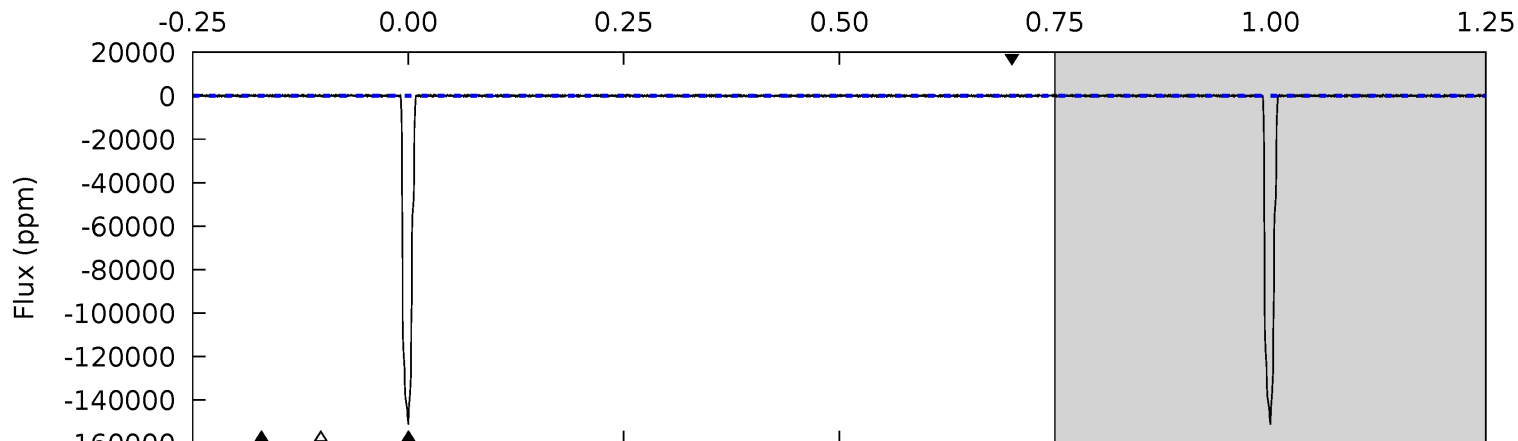
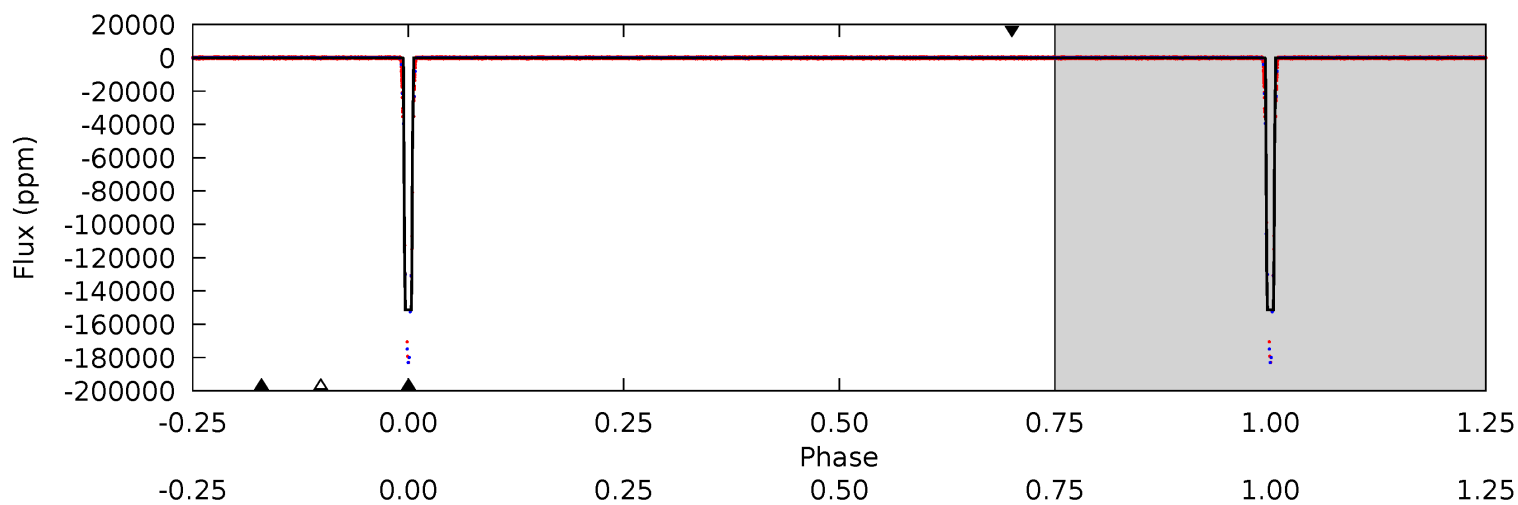
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17535	7.36	7.29	9.18	4.91	2.36	2.85	17527	17525	0.07	-1.83	2.69	0.91	0.00	0



# Alt Model-Shift Uniqueness Test

003230787-01, P = 17.733932 Days, E = 126.192399 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
4020	4.72	4.54	4.81	5.00	2.53	1.14	4016	4016	0.19	-0.09	32.5	0.91	0.00	0



### Stellar Parameters For KIC 003230787

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5883^{+162}_{-133}$	$4.040^{+0.280}_{-0.120}$	$-0.280^{+0.350}_{-0.250}$	$1.554^{+0.314}_{-0.472}$	$0.966^{+0.146}_{-0.106}$	$0.362^{+0.642}_{-0.127}$
	+3%/-2%	+7%/-3%	+125%/-89%	+20%/-30%	+15%/-11%	+177%/-35%
Source	PHO1	FLK73	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 003230787-01 / KOI 6101.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-78 \pm 11$	$87.75^{+11.26}_{-14.41}$	$1234^{+79}_{-110}$	$-1934^{+107}_{-65}$	$0.099^{+0.043}_{-0.024}$
Alt.	$-178 \pm 38$	$70.81^{+8.44}_{-11.89}$	$1237^{+77}_{-101}$	$1700^{+193}_{-3437}$	$0.351^{+0.155}_{-0.104}$

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

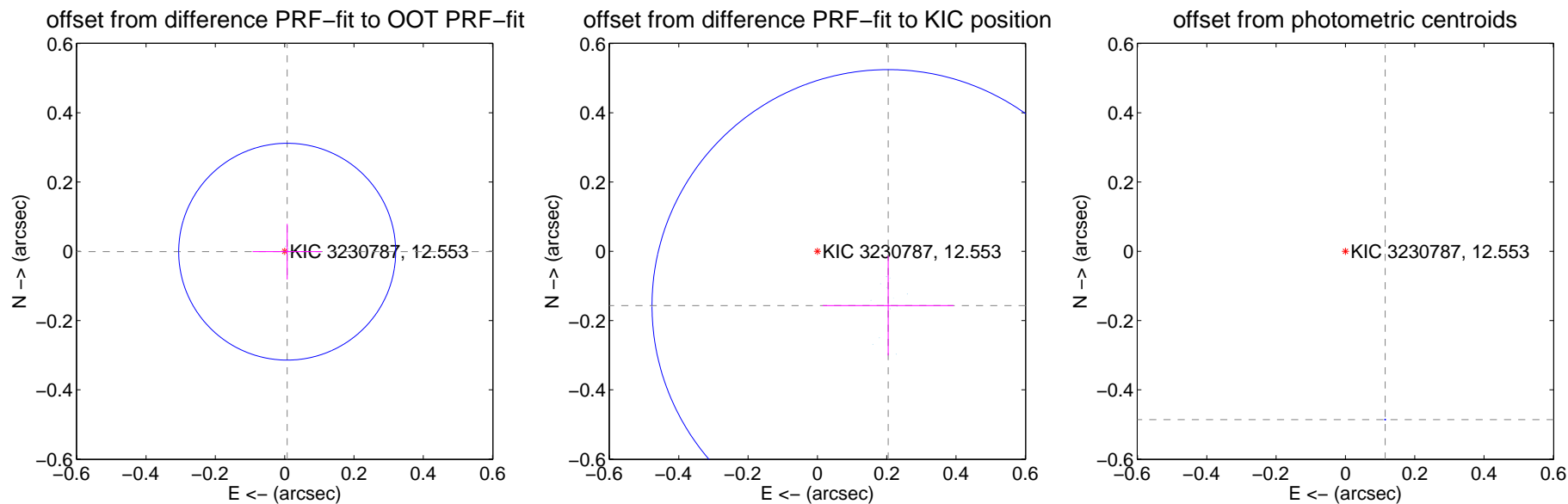
## DV Centroid Data

Supplemental centroid analysis for 003230787-01. Kepler magnitude: 12.55. Transit SNR 8650.28

There are 17 quarters with good PRF difference image offsets

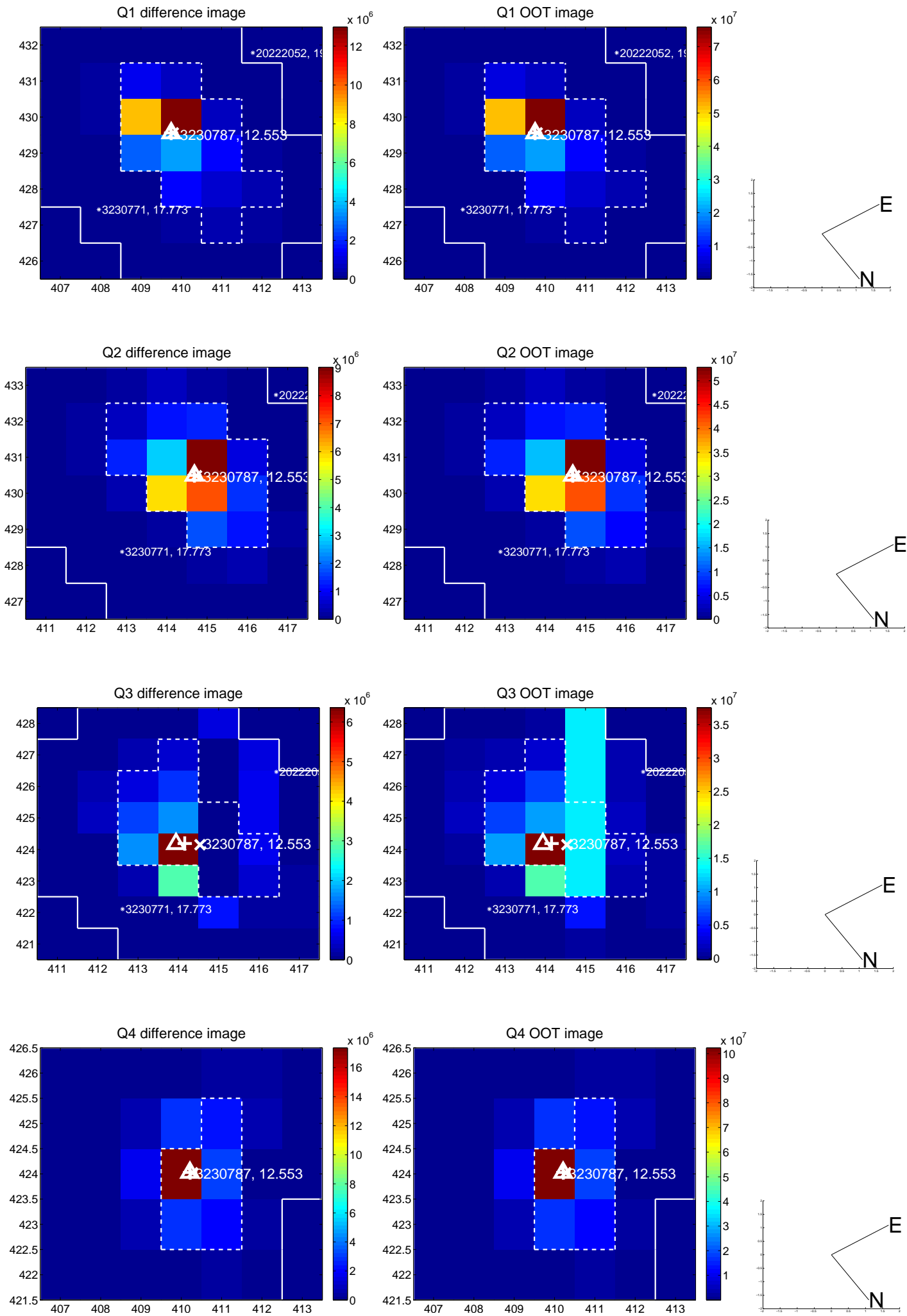
The direct PRF centroid is offset from the target star catalog position by about 0.26 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.007 \pm 0.104$	0.07	$-0.007 \pm 0.100$	$-0.001 \pm 0.080$
PRF-fit source offset from KIC position	$0.258 \pm 0.227$	1.13	$-0.204 \pm 0.189$	$-0.157 \pm 0.144$
photometric centroid source offset	$0.50 \pm 0.00$	1073.26	$-0.11 \pm 0.00$	$-0.49 \pm 0.00$

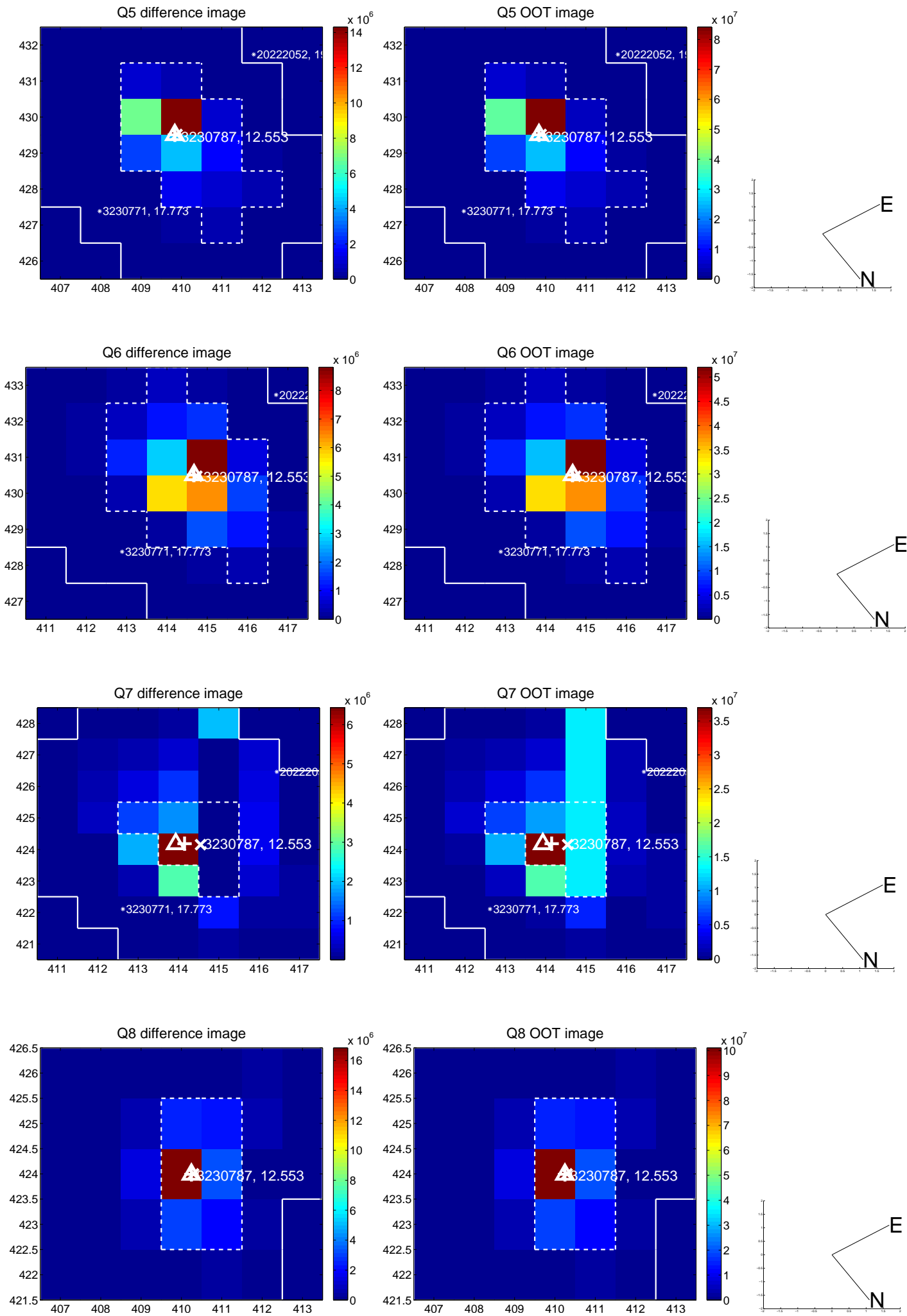


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

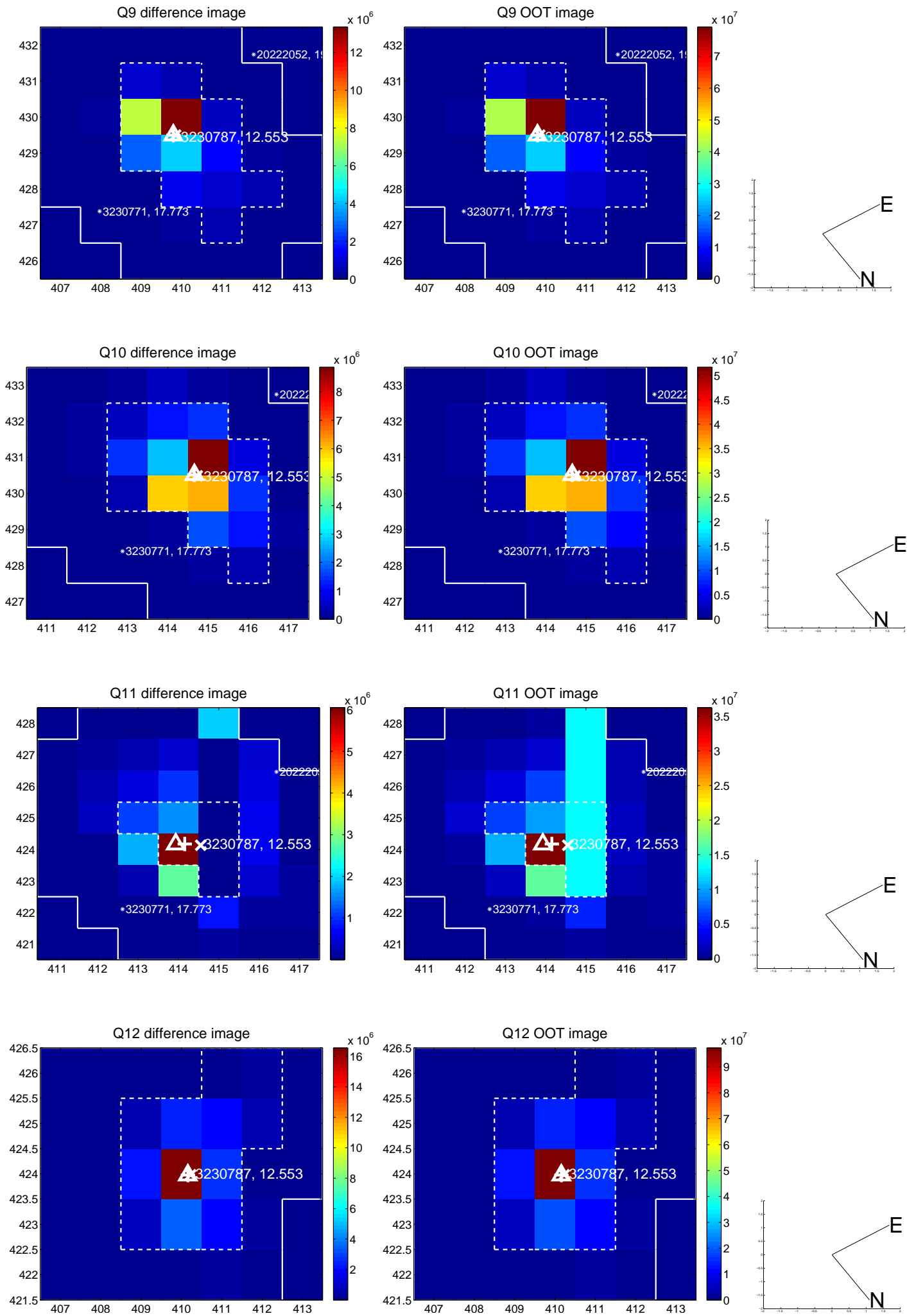


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

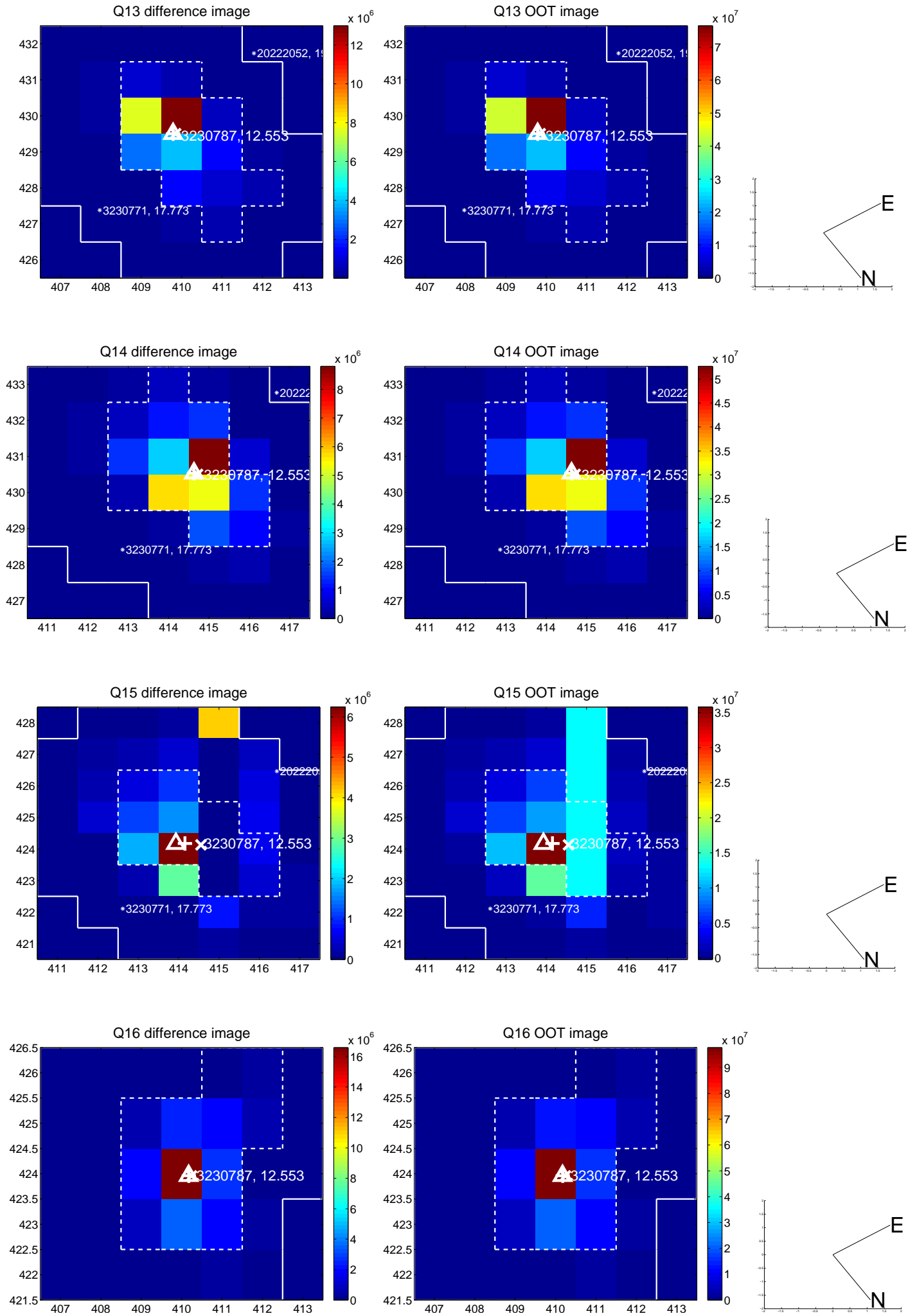




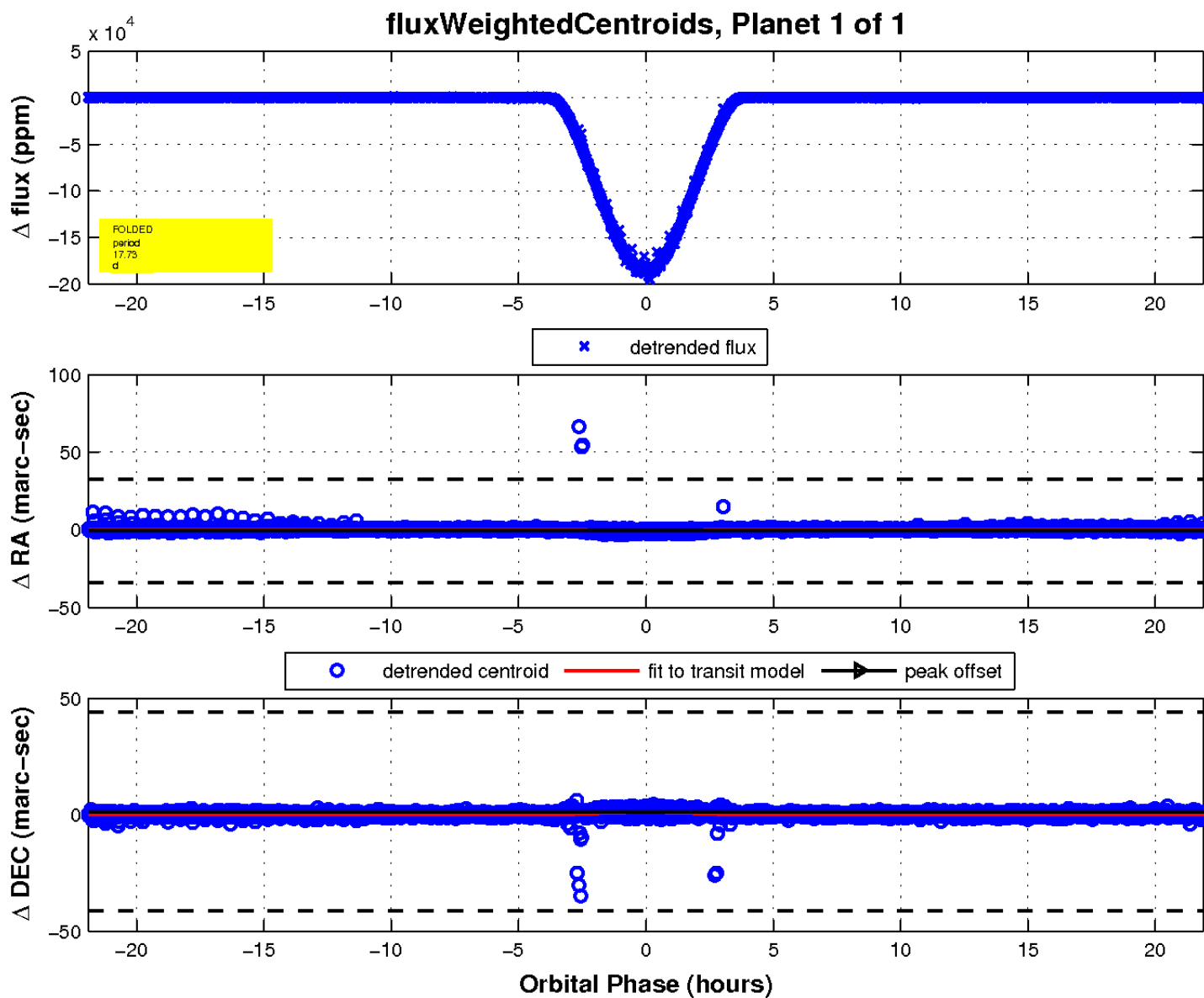
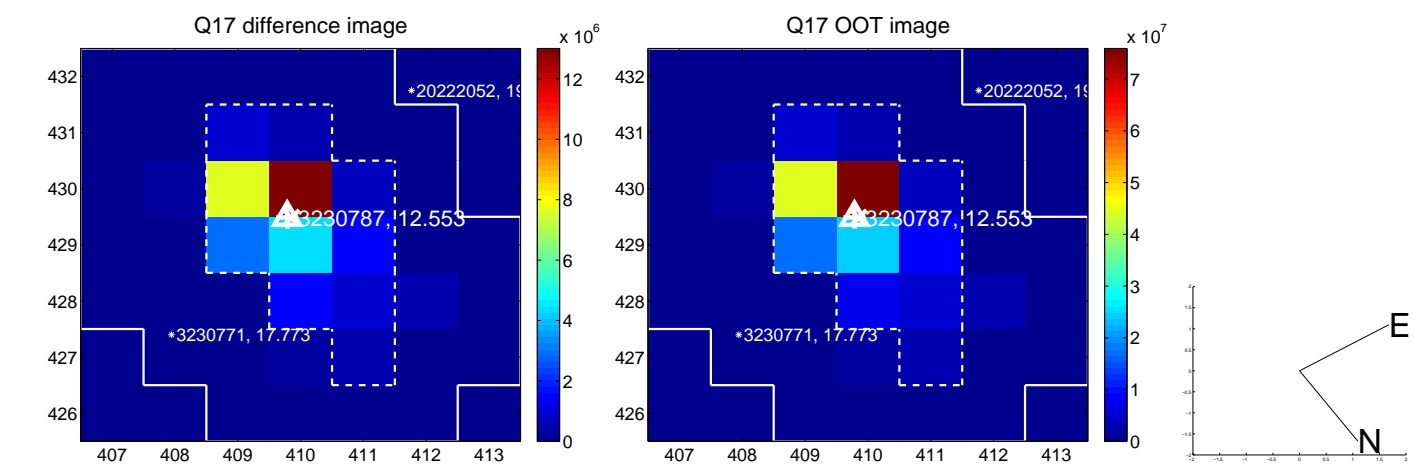
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white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

