

# KIC 010264660

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
010264660-01	OBS	0098.01	6.790120	138.088293	2237.3	6.092	598.5	627.4	2.00	6372	9.87	1000.75

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
010264660-01	OBS	PC	0.99	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.

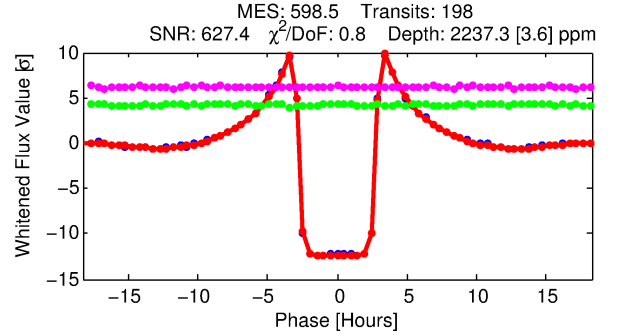
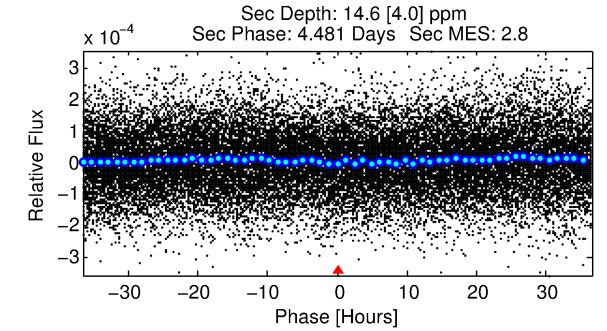
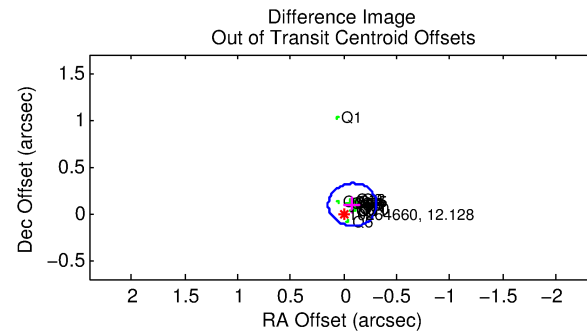
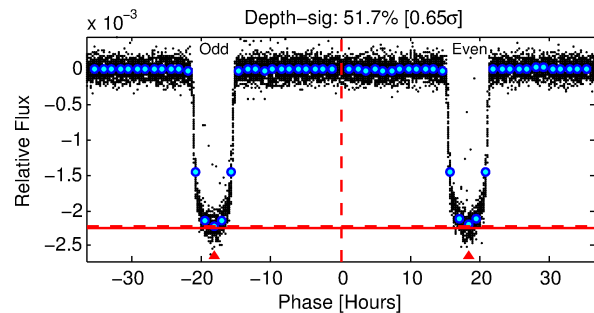
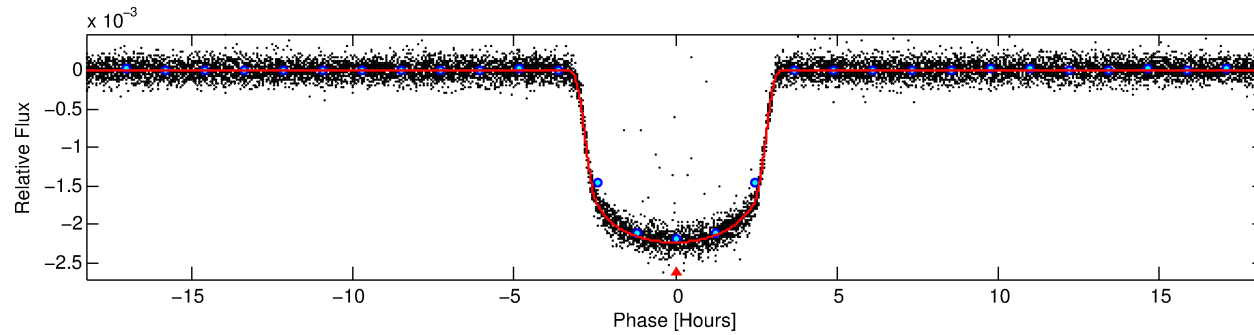
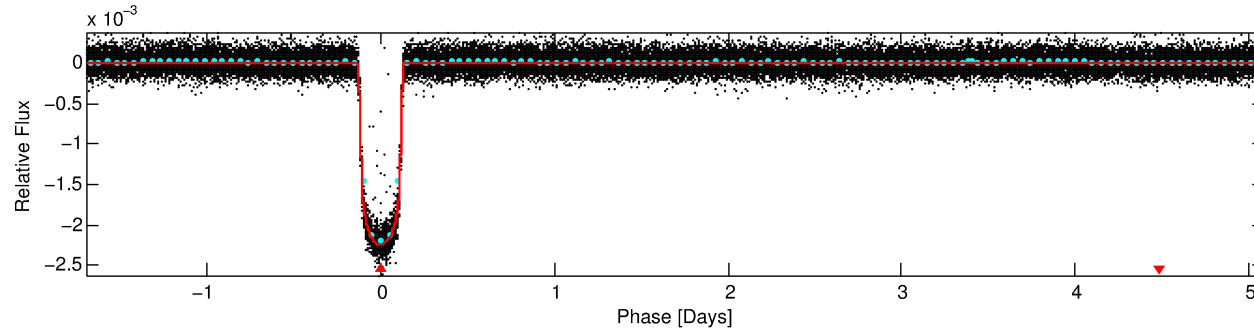
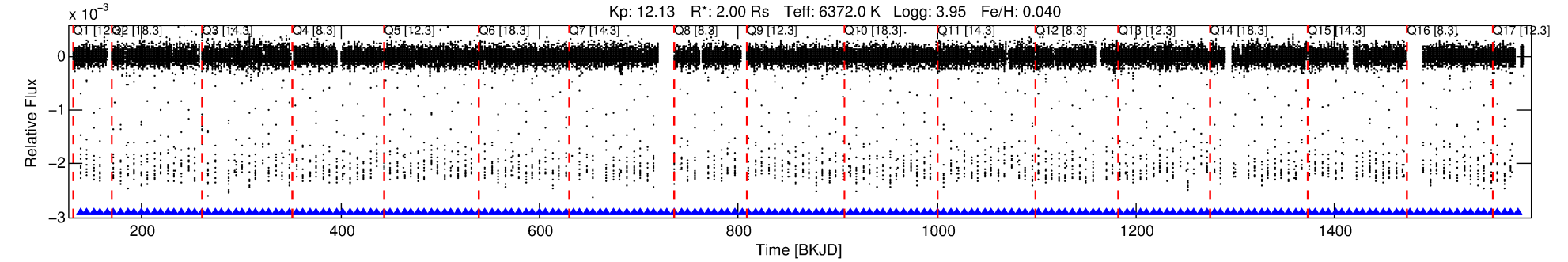
## Ephemeris Match Information For 010264660-01

No Significant Match Found

# DV One-Page Summary

KIC: 10264660 Candidate: 1 of 1 Period: 6.790 d  
KOI: K00098.01 Name: Kepler-14b Corr: 0.996

Kp: 12.13 R\*: 2.00 Rs Teff: 6372.0 K Logg: 3.95 Fe/H: 0.040



## DV Fit Results:

Period = 6.79012 [0.00000] d  
Epoch = 138.0883 [0.0001] BKJD  
Rp/R\* = 0.0452 [0.0002]  
a/R\* = 7.45 [0.13]  
b = 0.58 [0.02]  
Seff = 1000.75 [80.25]  
Teff = 1434 [29] K  
Rp = 9.87 [0.72] Re  
a = 0.0769 [0.0039] AU  
Ag = 0.49 [0.14] [-3.73σ]  
Teffp = 1853 [130] K [3.15σ]

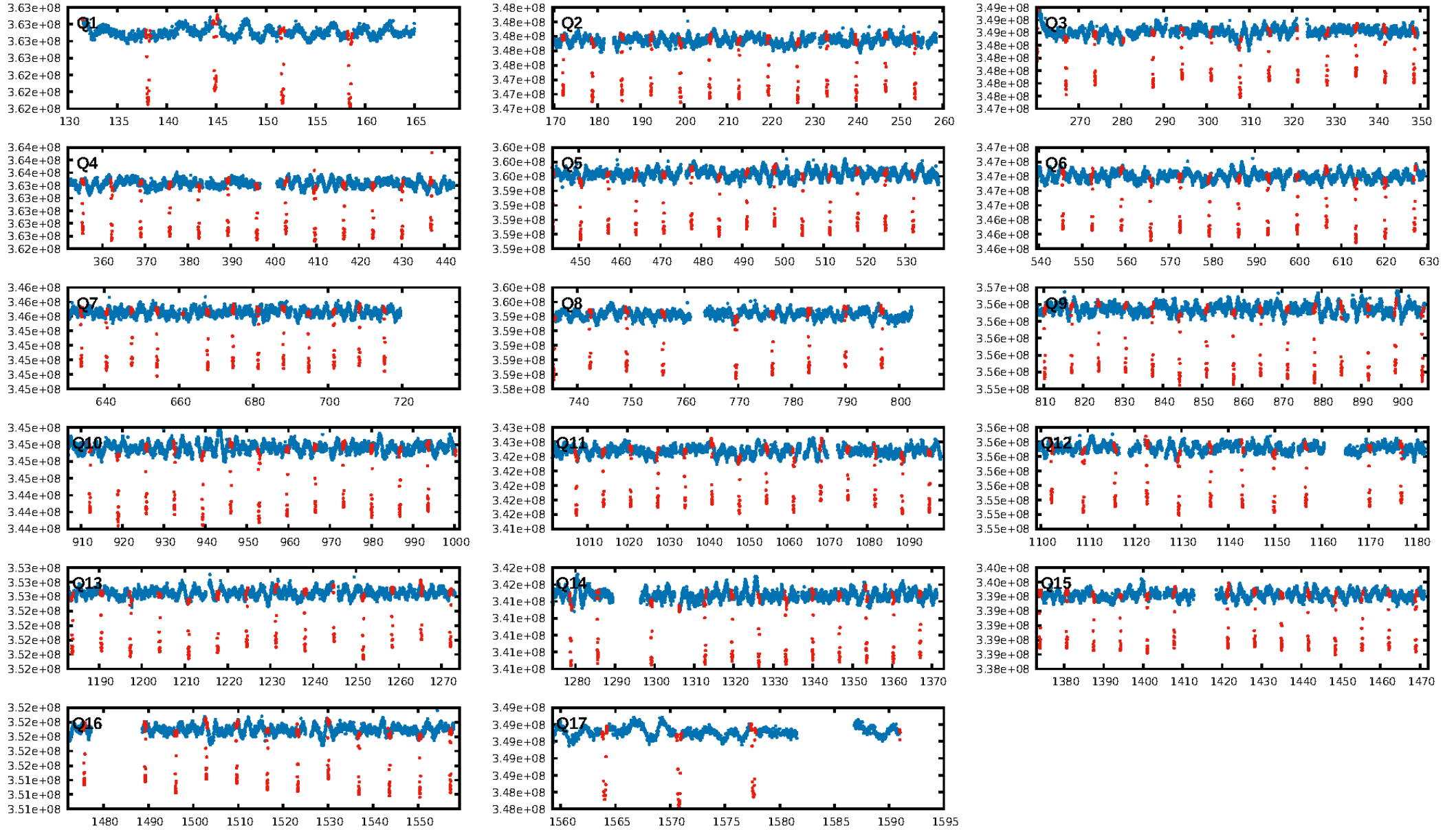
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.6%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 0.00e+00  
RollingBand-fgt: 1.00 [191/191]  
GhostDiagnostic-chr: 8.831  
Centroid-sig: 0.0%  
Centroid-so: 0.135 arcsec [14.28σ]  
OotOffset-rm: 0.125 arcsec [1.65σ]  
KicOffset-rm: 0.204 arcsec [2.57σ]  
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]

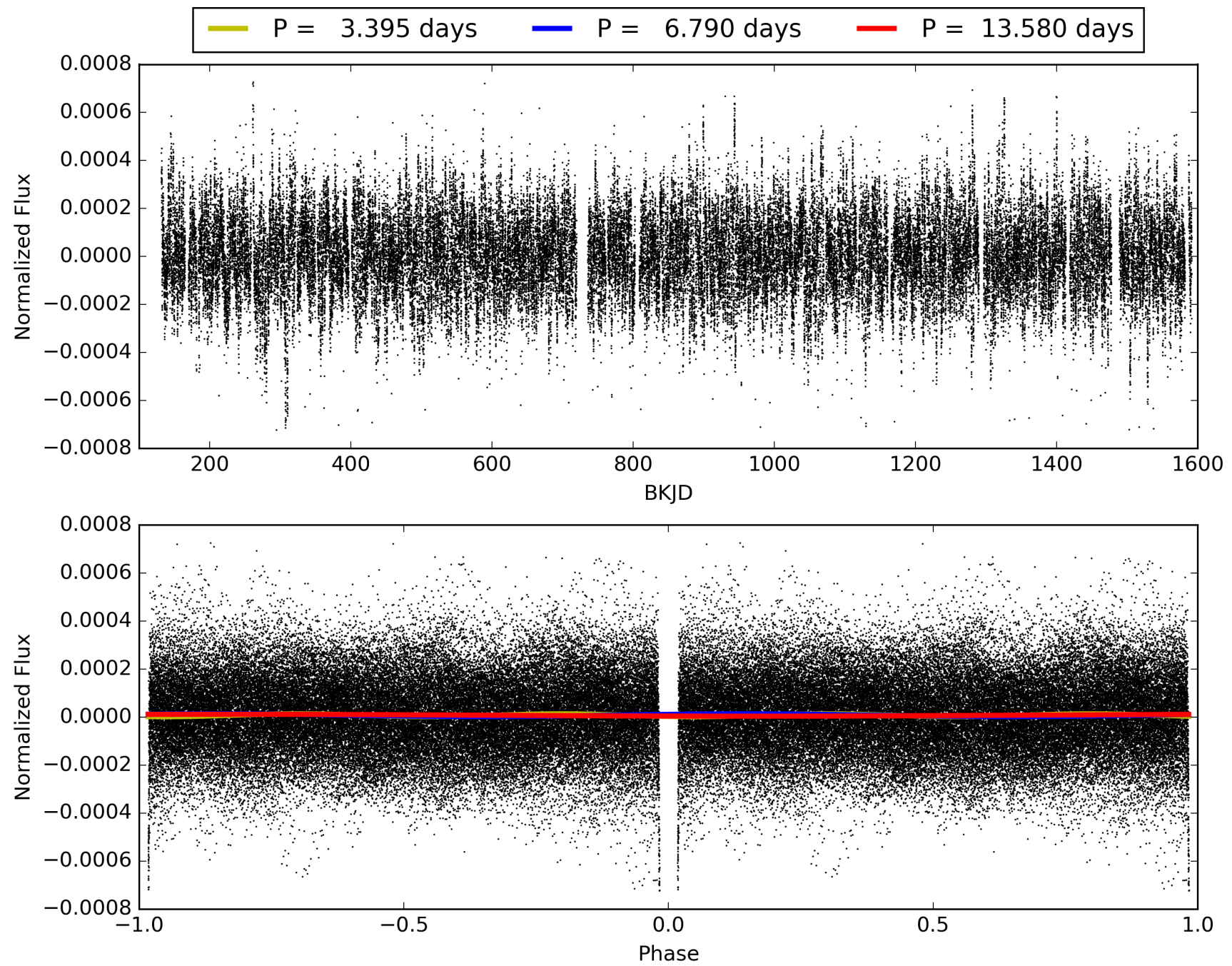
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 08:12:16 Z

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

# TCE 010264660-01, PDC Light Curves

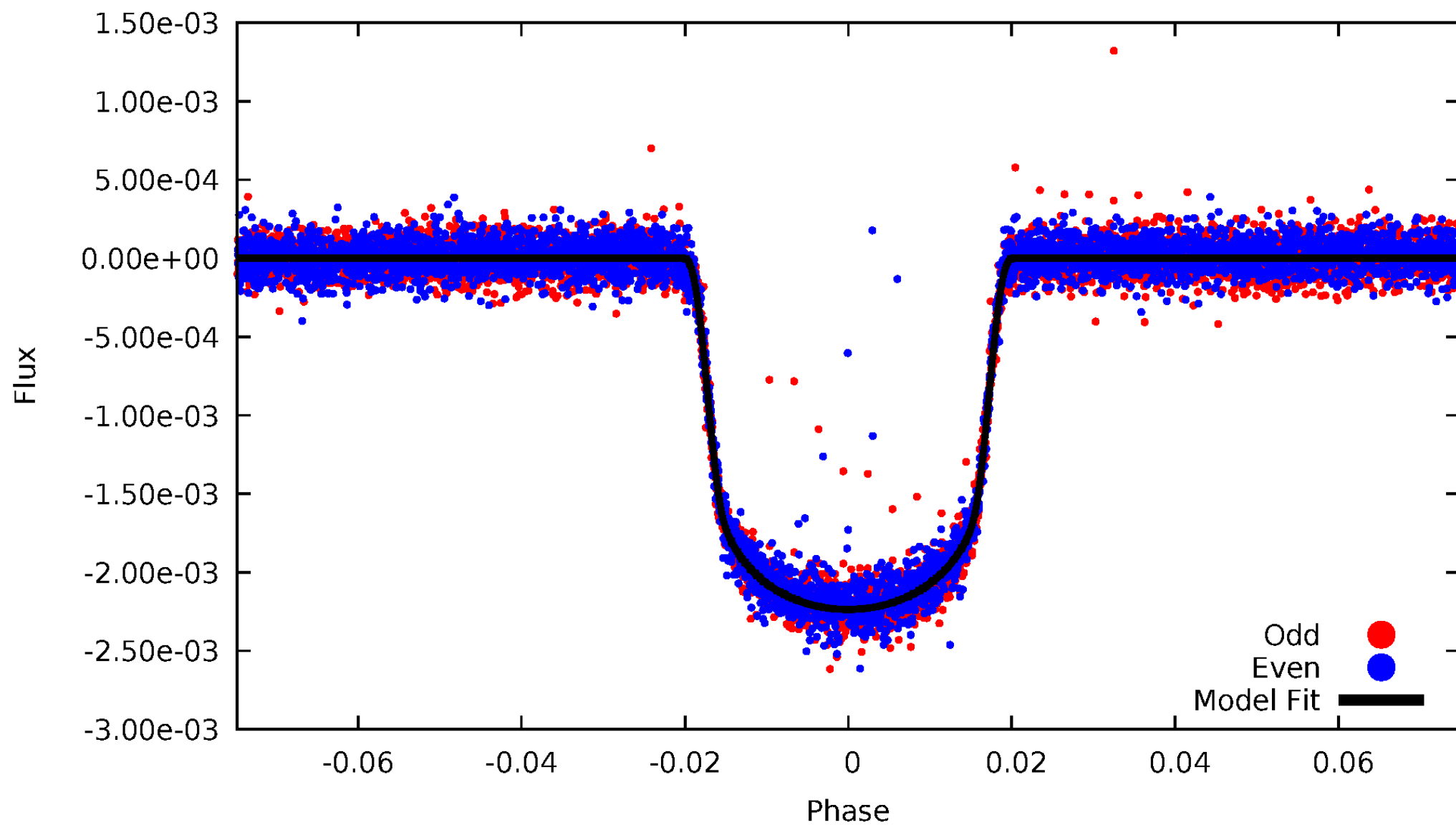


TCE 010264660-01



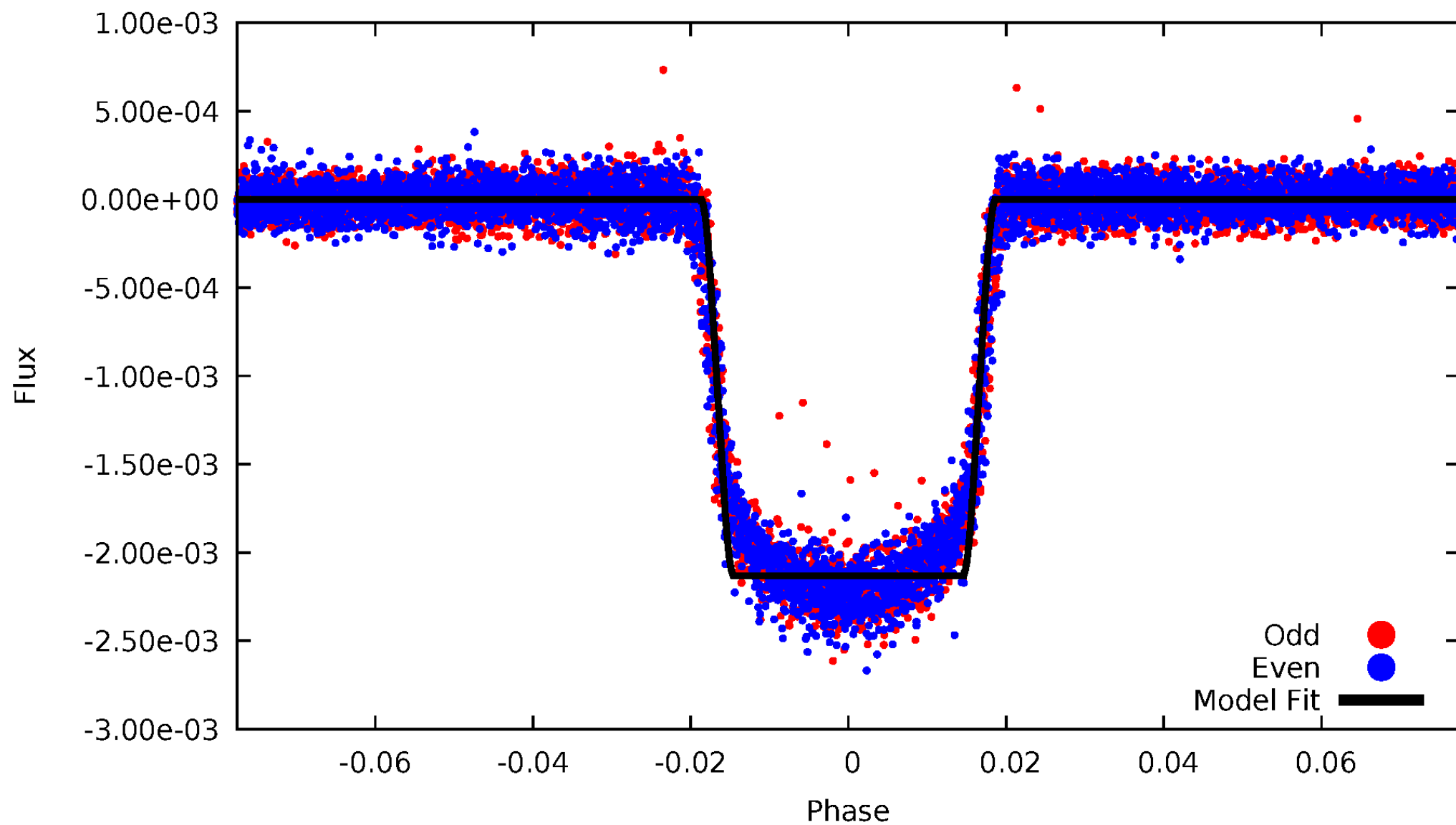
# DV Odd/Even

TCE 010264660-01



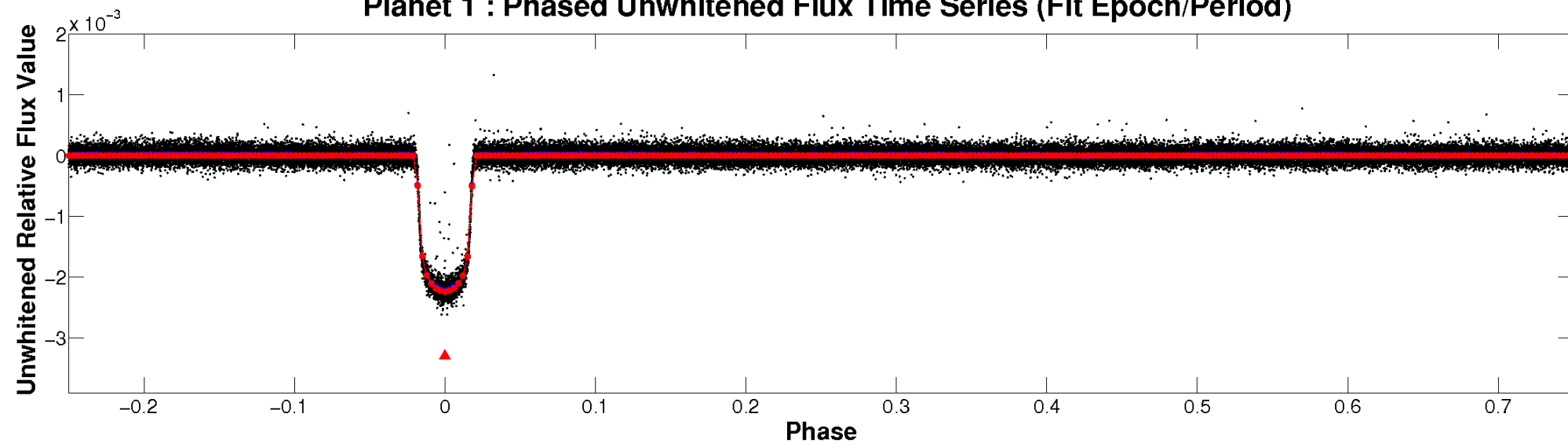
# ALT Odd/Even

TCE 010264660-01

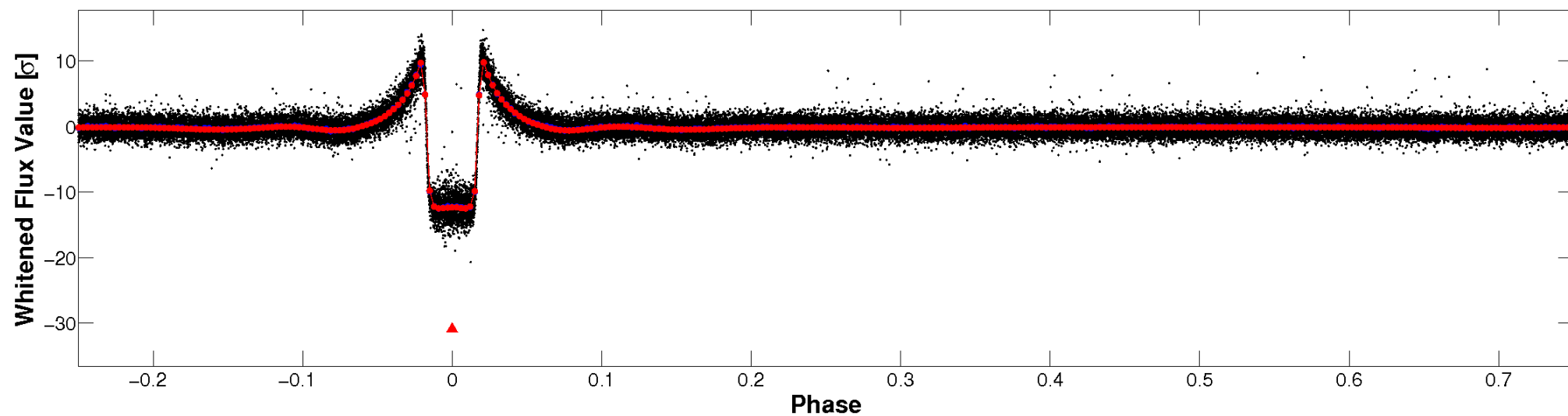


# Non-Whitened Vs. Whitened Light Curve

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



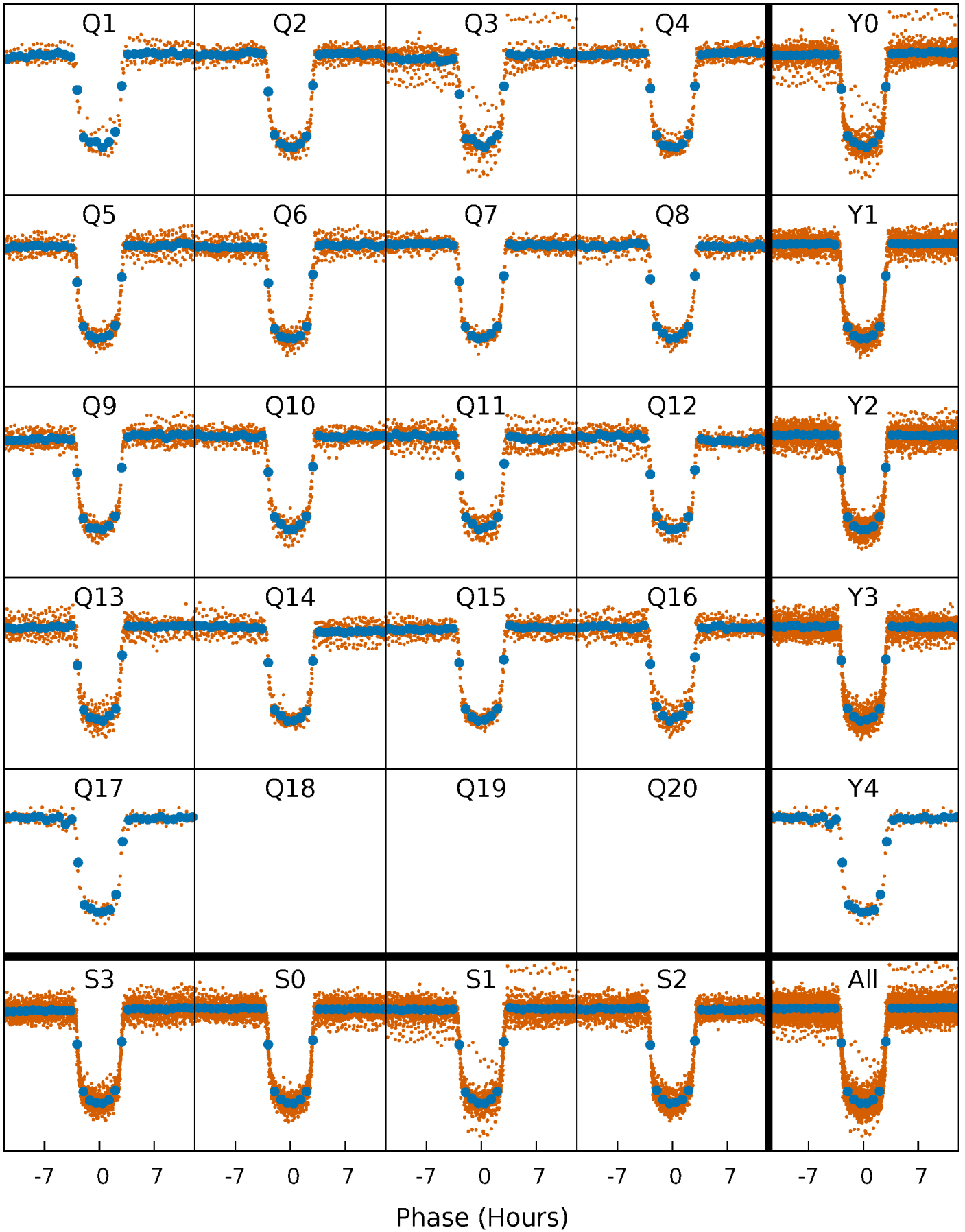
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

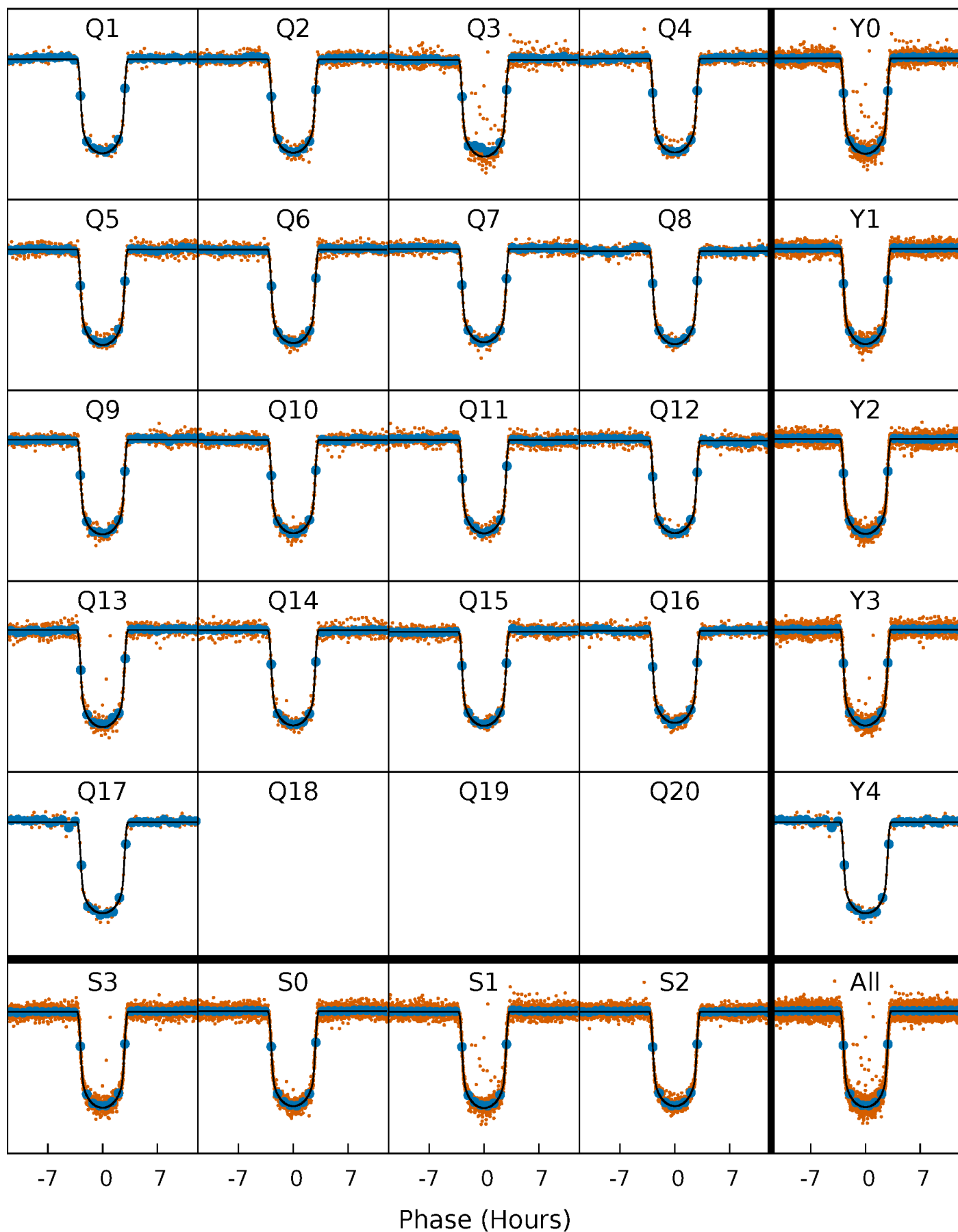
TCE 010264660-01 P= 6.790120 Days  $T_0=138.088293$  (BKJD)





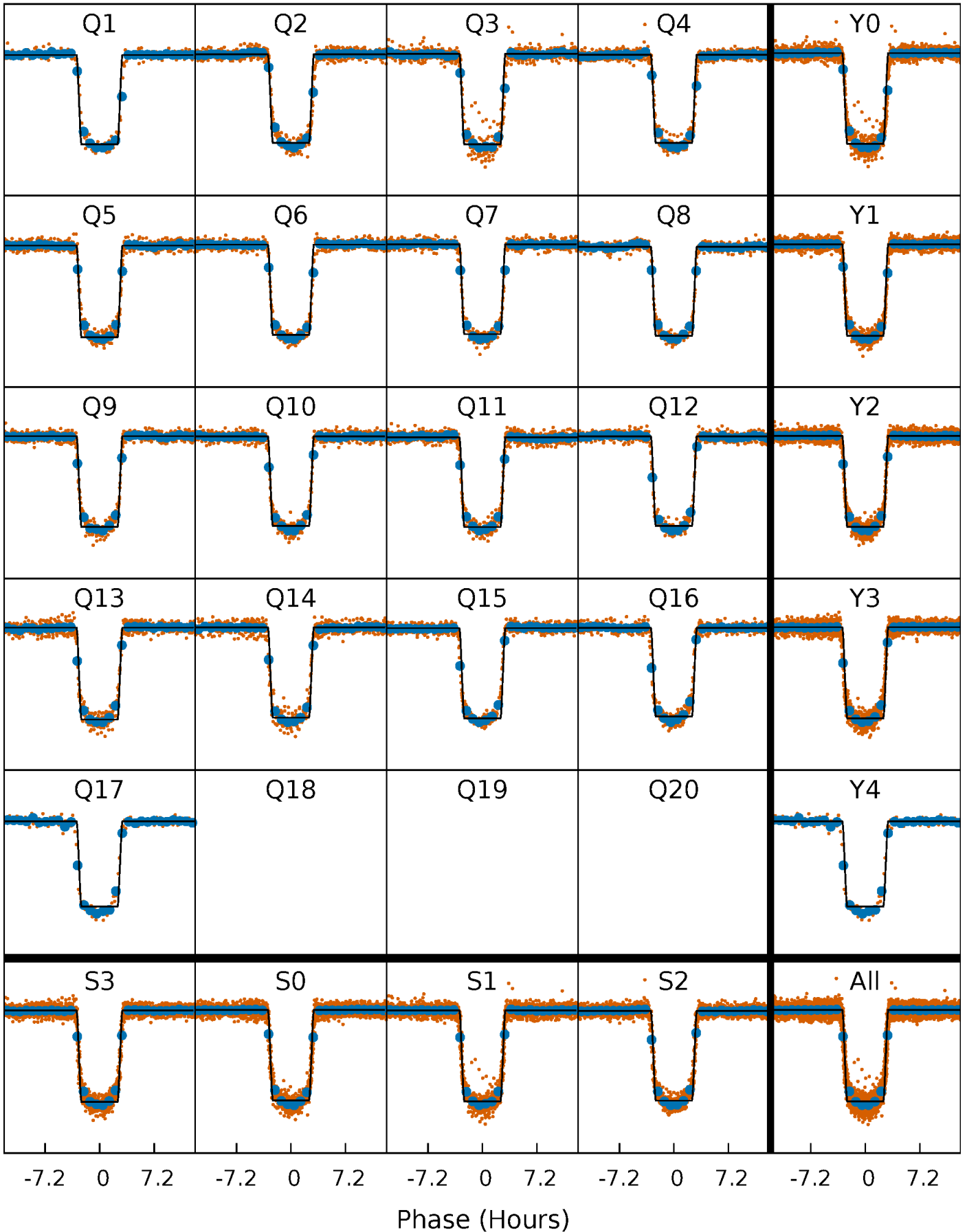
# DV Quarter-Phased Transit Curves

TCE 010264660-01 P= 6.790120 Days  $T_0=138.088293$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

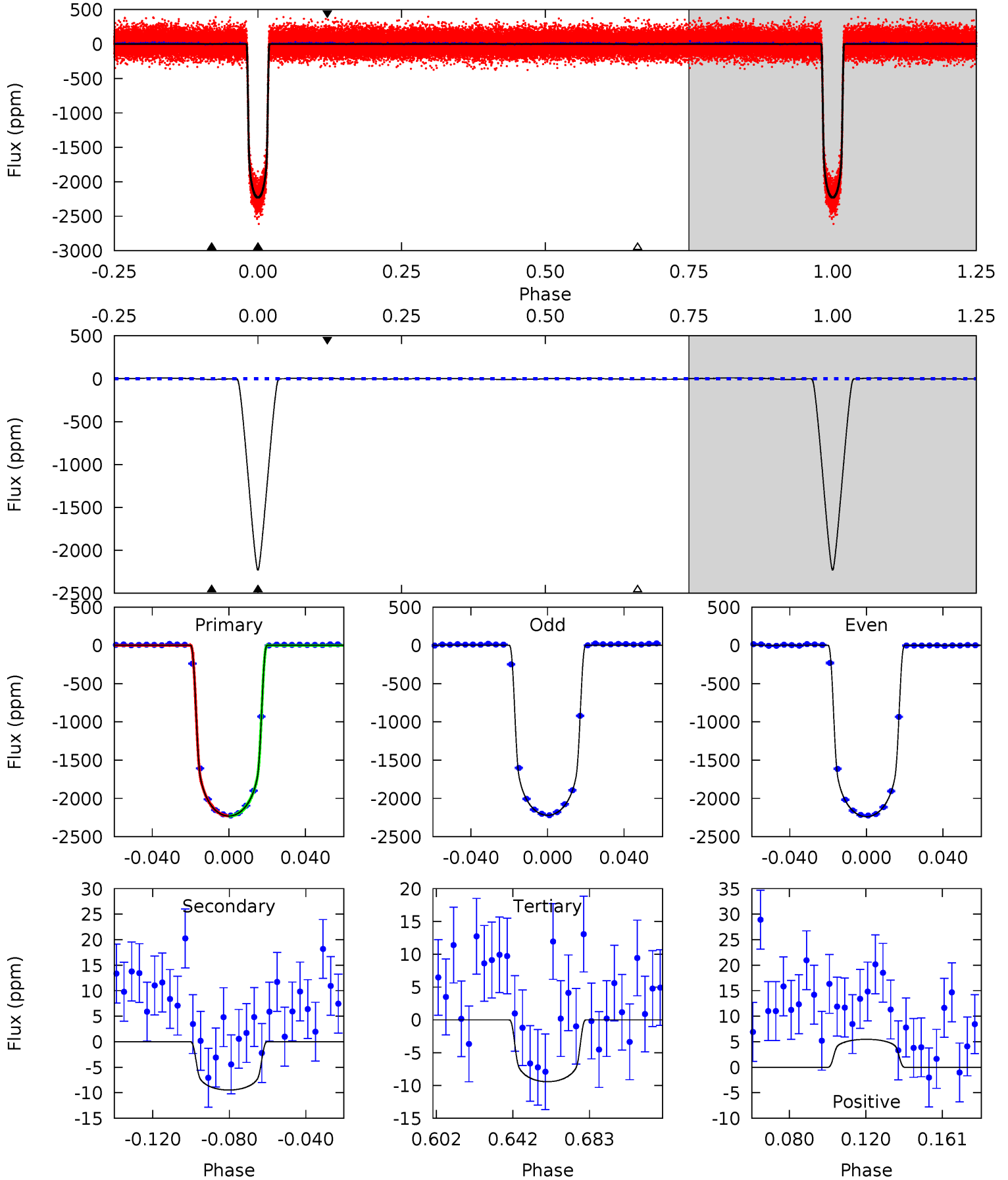
TCE 010264660-01 P= 6.790191 Days  $T_0=138.080936$  (BKJD)



# DV Model-Shift Uniqueness Test

010264660-01, P = 6.790120 Days, E = 131.298173 Days

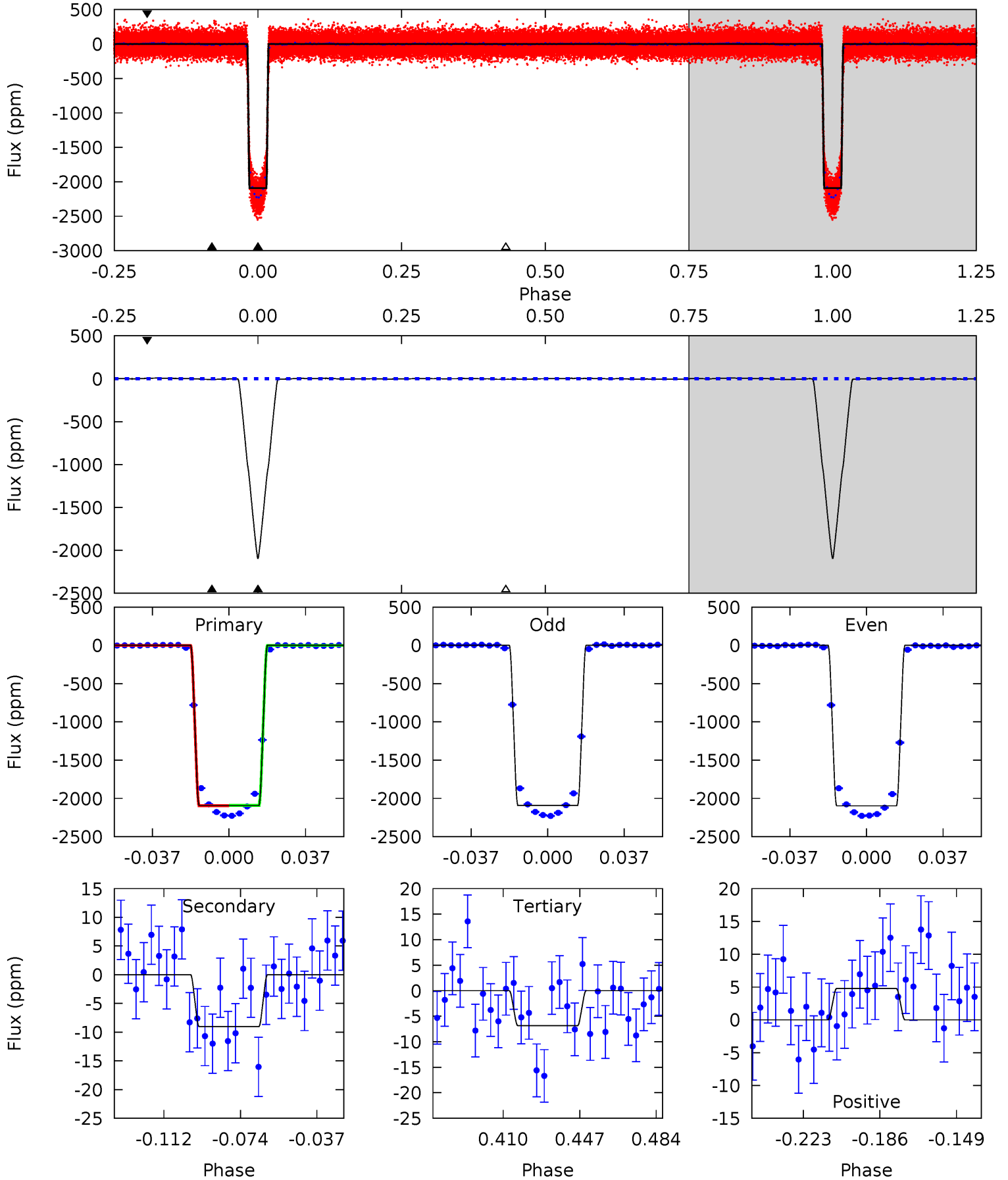
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
1192	5.06	5.04	2.93	4.75	2.05	2.48	1187	1189	0.02	2.13	4.79	0.99	0.00	0



# Alt Model-Shift Uniqueness Test

010264660-01, P = 6.790191 Days, E = 131.290745 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
1193	5.15	3.91	2.72	4.77	2.08	1.82	1189	1191	1.24	2.43	1.92	1.00	0.00	0.87



### Stellar Parameters For KIC 010264660

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (g \cdot \text{cm}^{-3})$
	$6372^{+76}_{-89}$	$3.954^{+0.020}_{-0.020}$	$0.040^{+0.150}_{-0.150}$	$2.001^{+0.146}_{-0.073}$	$1.313^{+0.170}_{-0.085}$	$0.231^{+0.015}_{-0.023}$
	+1%/-1%	+1%/-1%	+375%/-375%	+7%/-4%	+13%/-6%	+7%/-10%
Source	SPE72	AST8	SPE72	DSEP		

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

### Secondary Eclipse Parameters for KIC 010264660-01 / KOI 0098.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-9 \pm 2$	$9.82^{+0.43}_{-0.25}$	$2003^{+34}_{-32}$	$1781^{+353}_{-3832}$	$0.313^{+0.065}_{-0.064}$
Alt.	$-9 \pm 2$	$10.04^{+0.46}_{-0.26}$	$2001^{+34}_{-29}$	$-1734^{+3777}_{-371}$	$0.291^{+0.060}_{-0.056}$

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

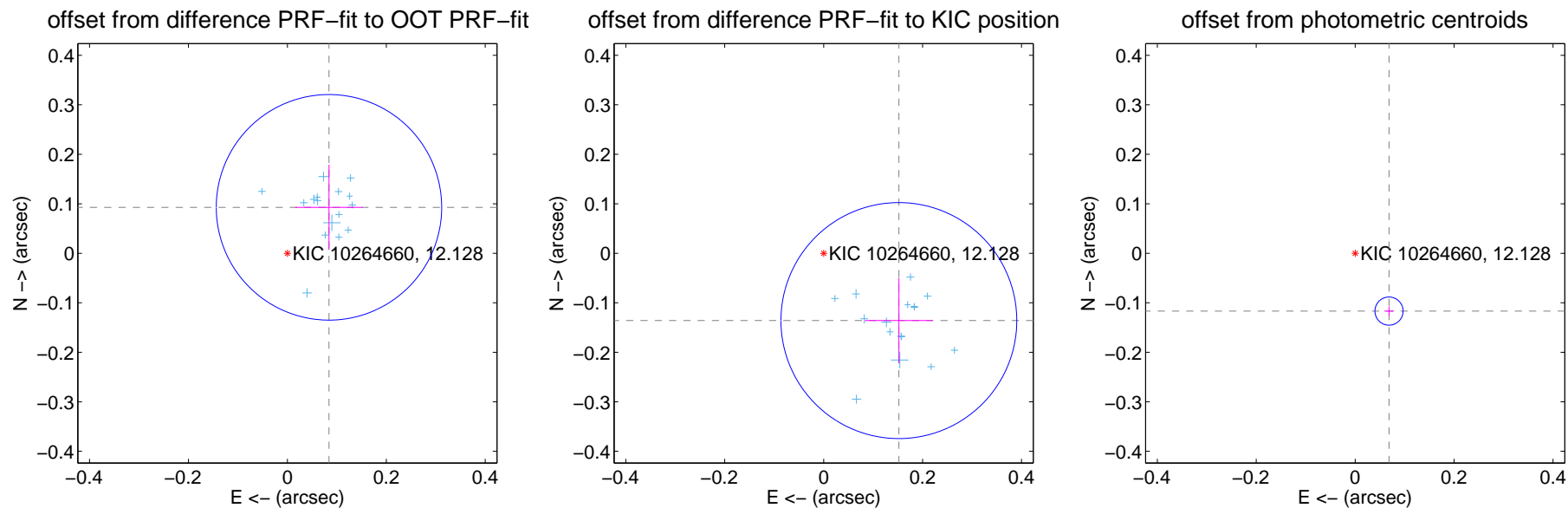
## DV Centroid Data

Supplemental centroid analysis for 010264660-01. Kepler magnitude: 12.13. Transit SNR 627.36

There are 17 quarters with good PRF difference image offsets

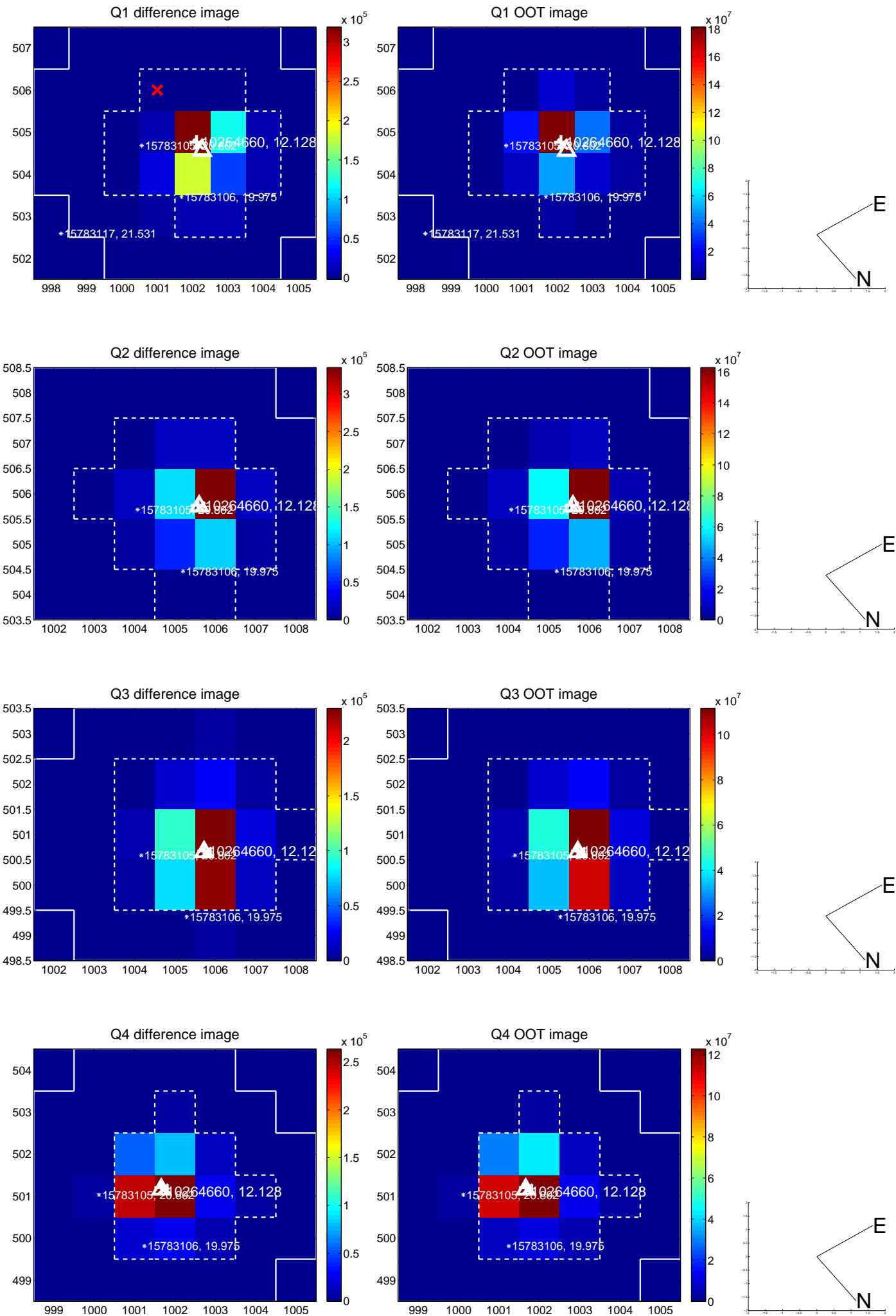
The direct PRF centroid is offset from the target star catalog position by about 0.28 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.125 \pm 0.076$	1.65	$-0.084 \pm 0.068$	$0.093 \pm 0.086$
PRF-fit source offset from KIC position	$0.204 \pm 0.079$	2.57	$-0.152 \pm 0.069$	$-0.136 \pm 0.086$
photometric centroid source offset	$0.14 \pm 0.01$	14.28	$-0.07 \pm 0.01$	$-0.12 \pm 0.01$



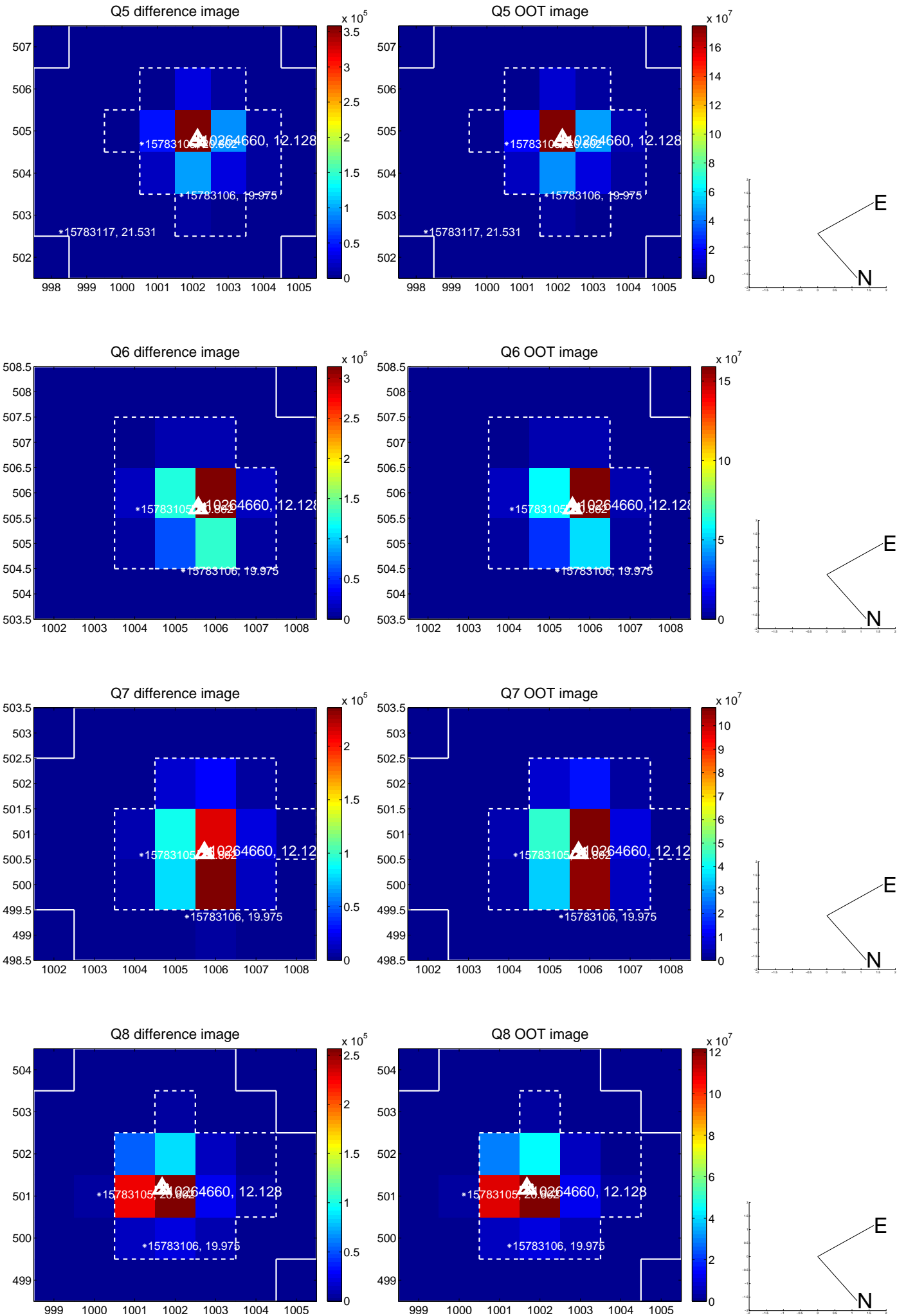
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

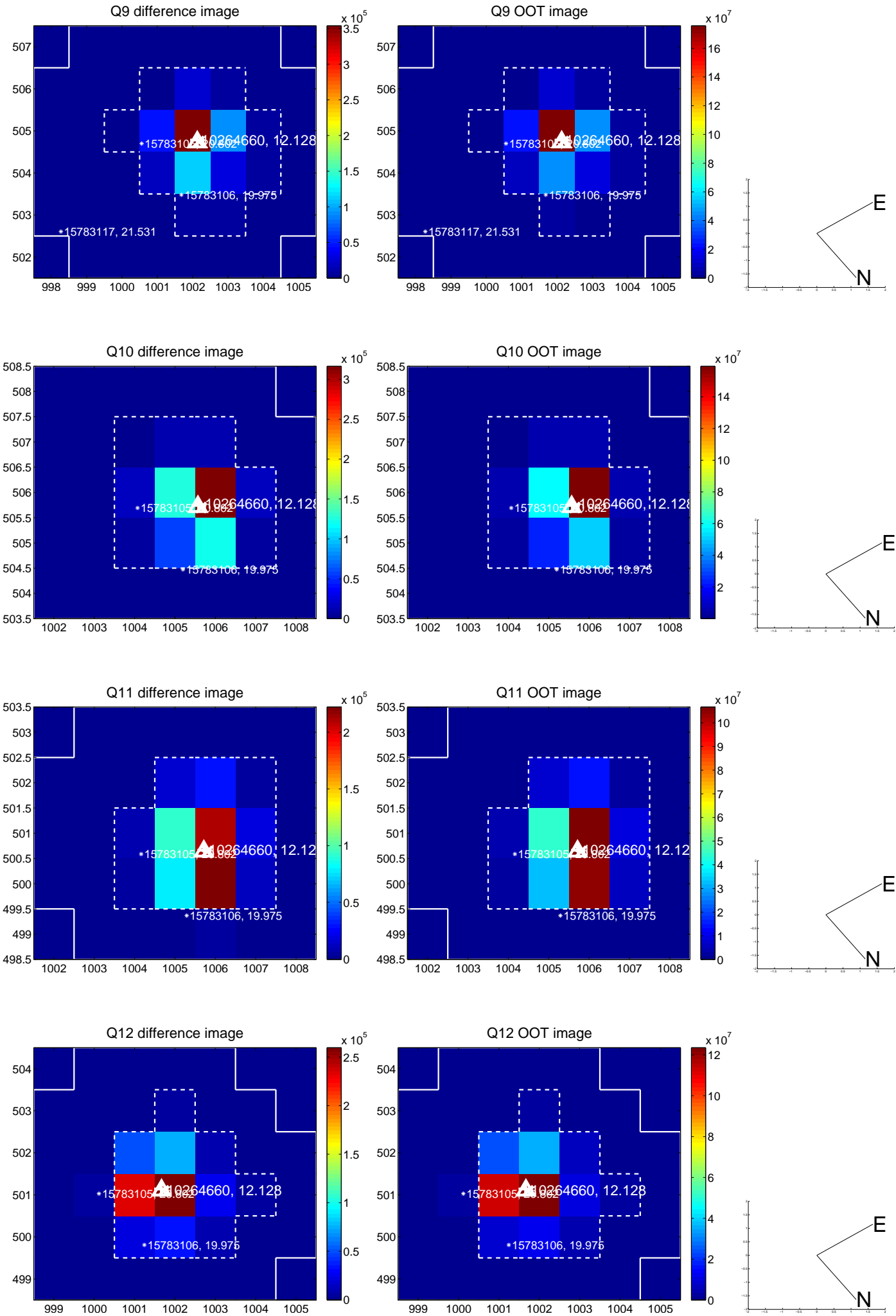




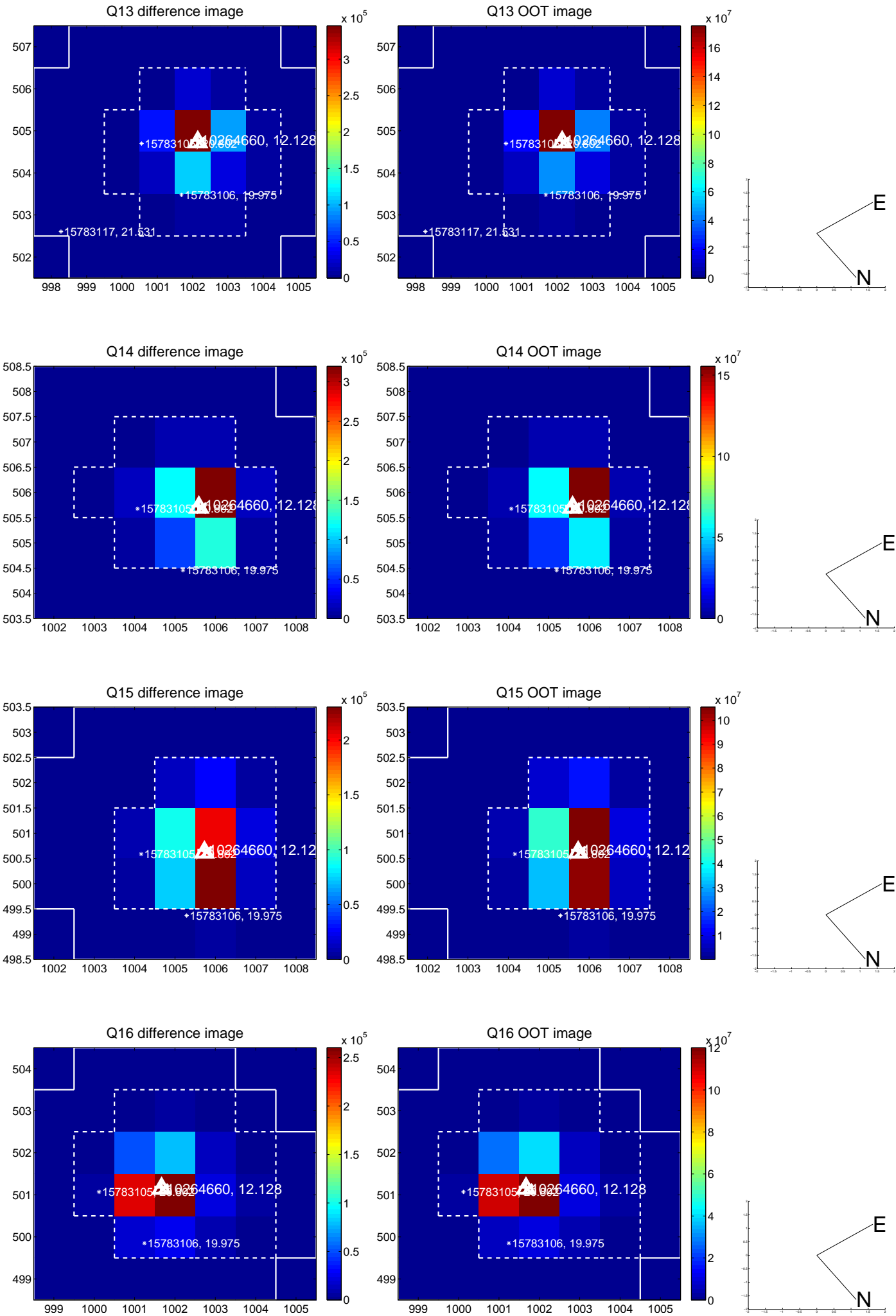
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



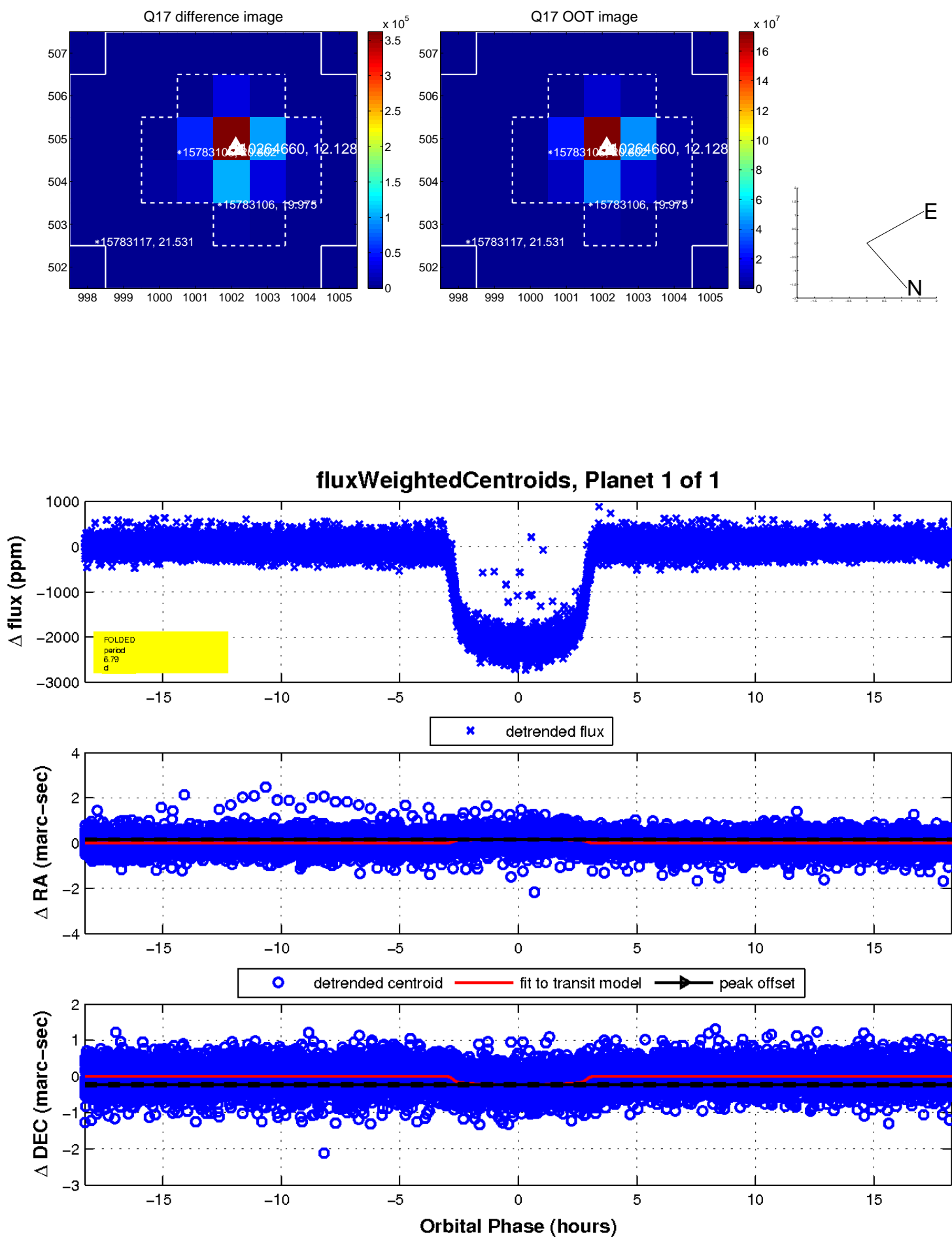
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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

