

# KIC 007301202

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007301202-01	OBS	No	4.674934	134.785450	27.8	26.383	8.7	9.0	5.72	5938	4.24	7573.58

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007301202-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

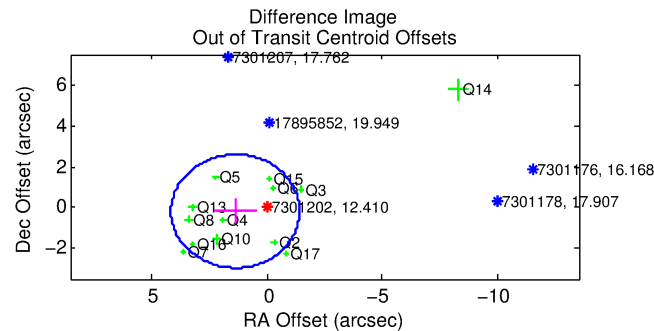
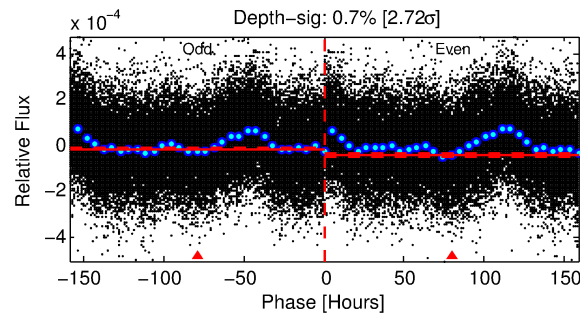
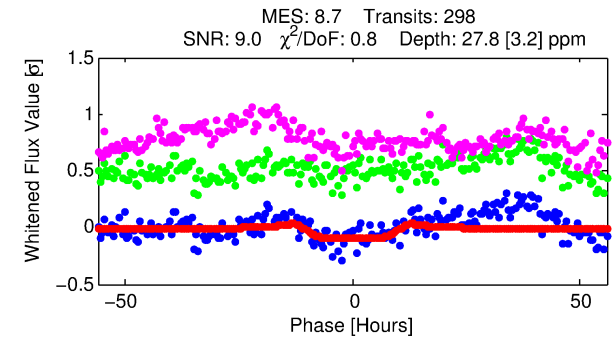
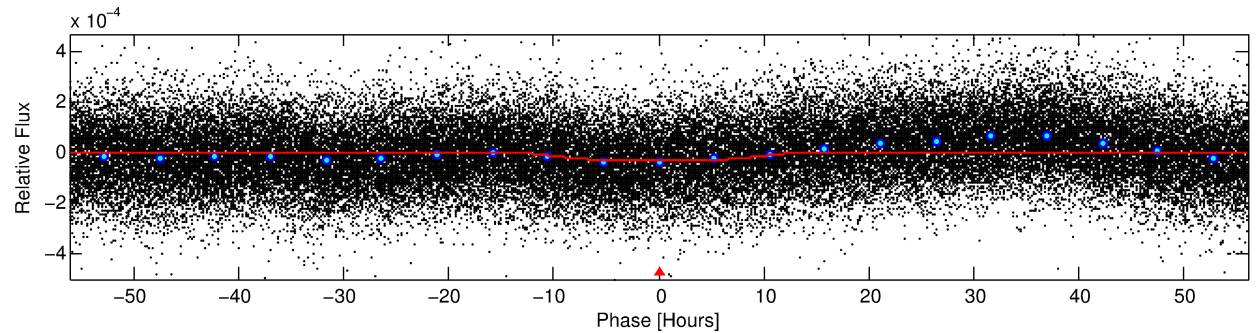
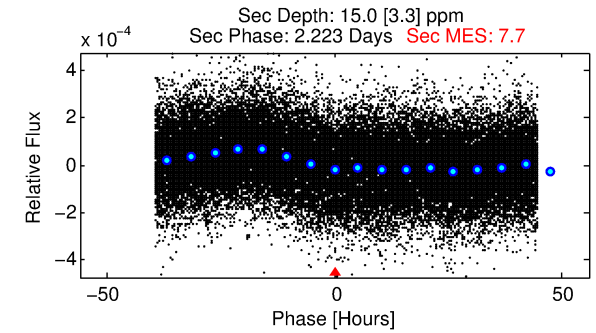
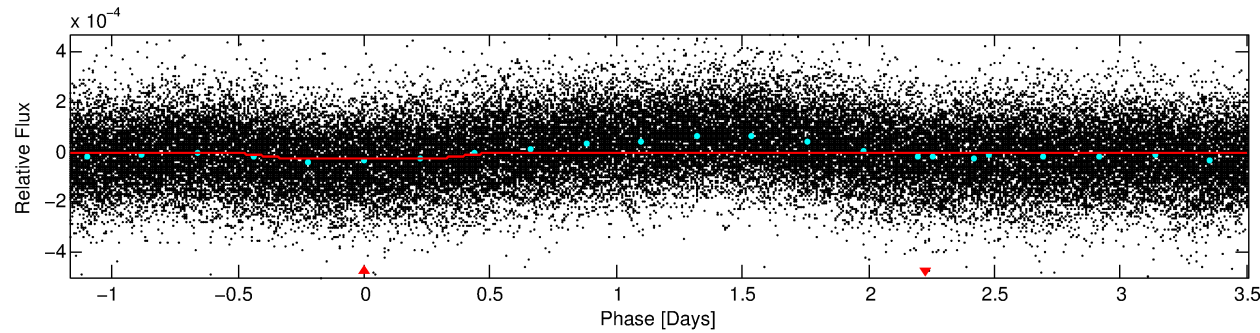
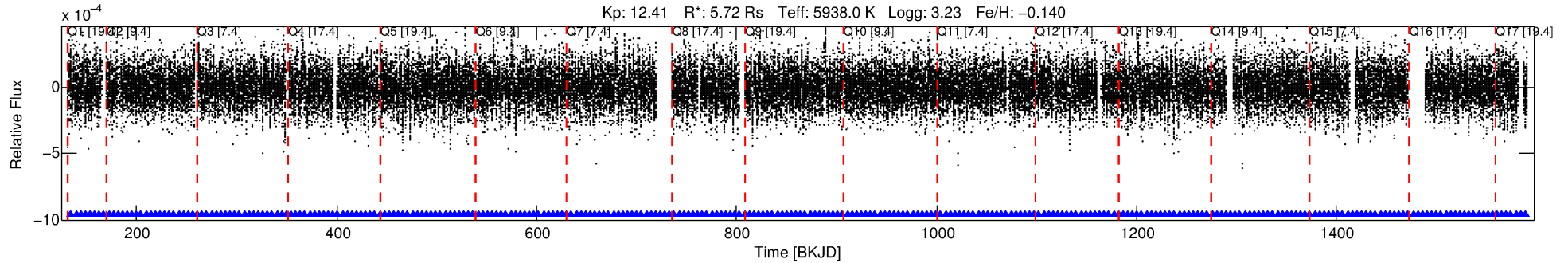
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 007301202-01

No Significant Match Found

# DV One-Page Summary

KIC: 7301202 Candidate: 1 of 1 Period: 4.675 d



## DV Fit Results:

Period = 4.67493 [0.00026] d  
Epoch = 134.7855 [0.0448] BKJD  
Rp/R\* = 0.0068 [0.0005]  
a/R\* = 1.03 [0.01]  
b = 0.99 [0.00]  
Seff = 7573.58 [5308.80]  
Teq = 2379 [417] K  
Rp = 4.24 [2.10] Re  
a = 0.0694 [0.0310] AU  
Ag = 2.21 [1.63] [0.74σ]  
Teffp = 4485 [321] K [4.00σ]

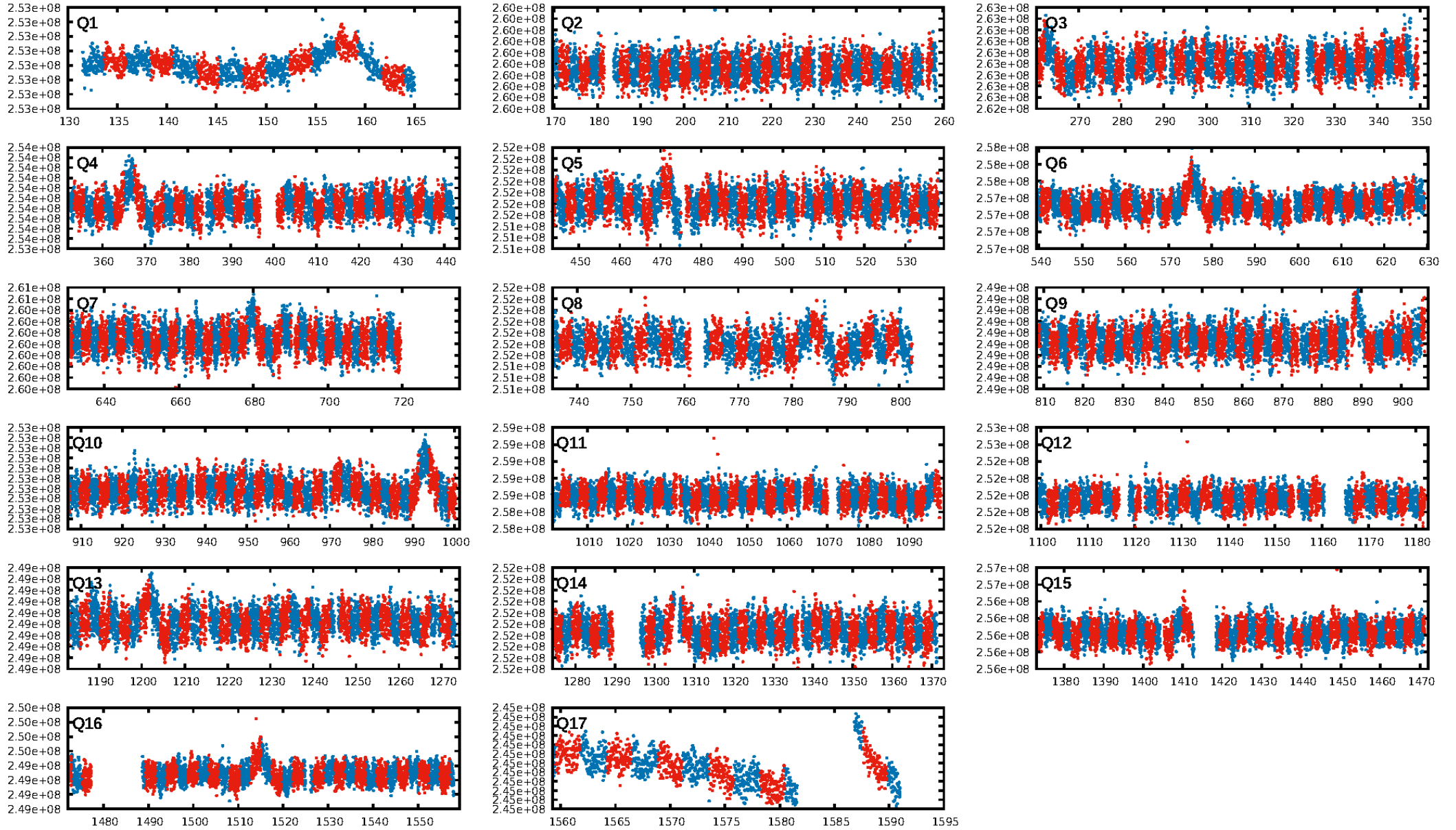
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.52e-15  
RollingBand-fgt: 1.00 [285/285]  
GhostDiagnostic-chr: 2.817  
Centroid-sig: 4.0%  
Centroid-so: 1.238 arcsec [1.97σ]  
OotOffset-rm: 1.378 arcsec [1.49σ]  
OotOffset-st: 4/3/3/3 [13]  
KicOffset-rm: 1.320 arcsec [1.50σ]  
KicOffset-st: 4/3/3/3 [13]  
DiffImageQuality-fgm: 0.62 [8/13]  
DiffImageOverlap-fno: 1.00 [17/17]

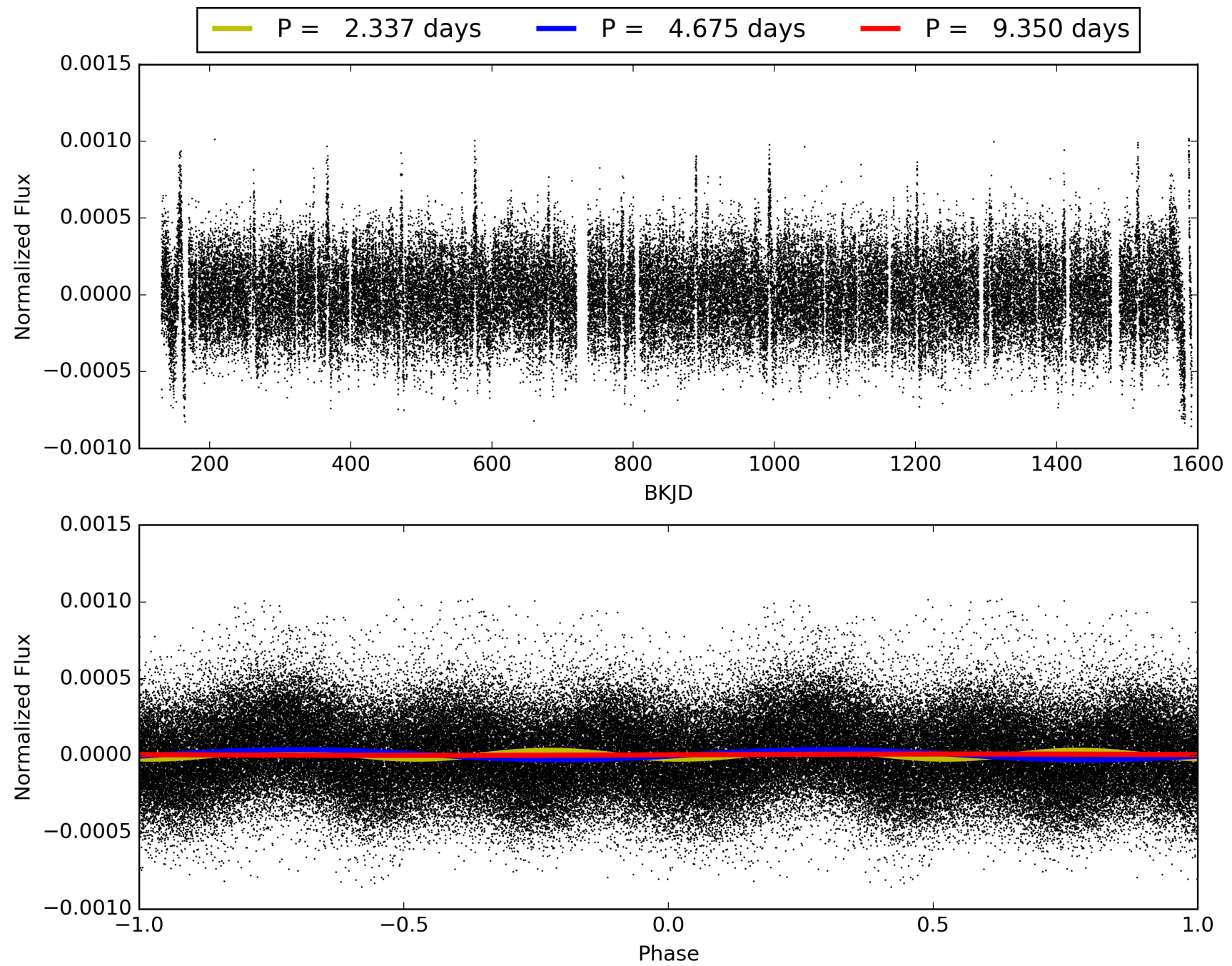
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 23:49:43 Z

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

# TCE 007301202-01, PDC Light Curves

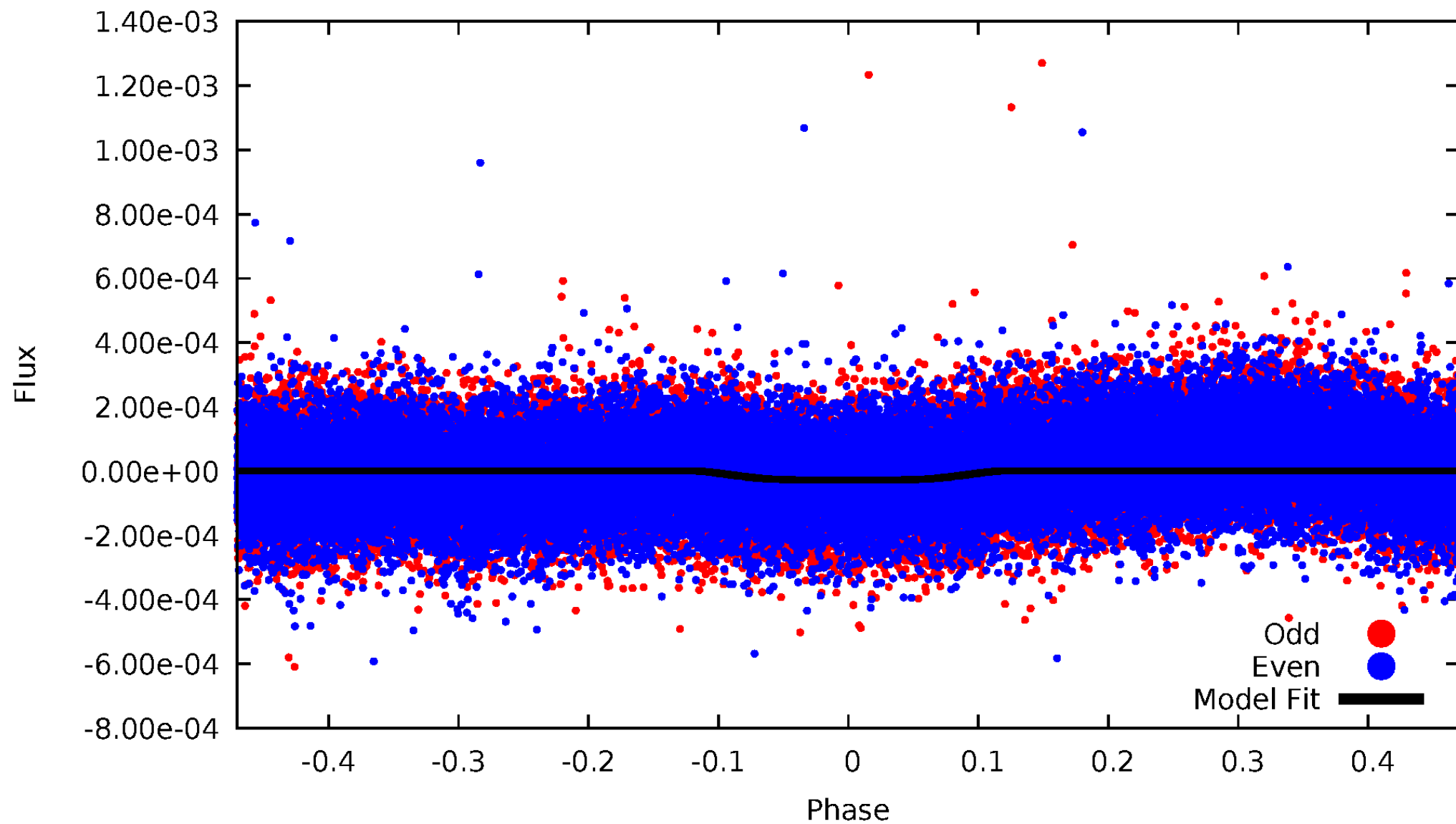


TCE 007301202-01



# DV Odd/Even

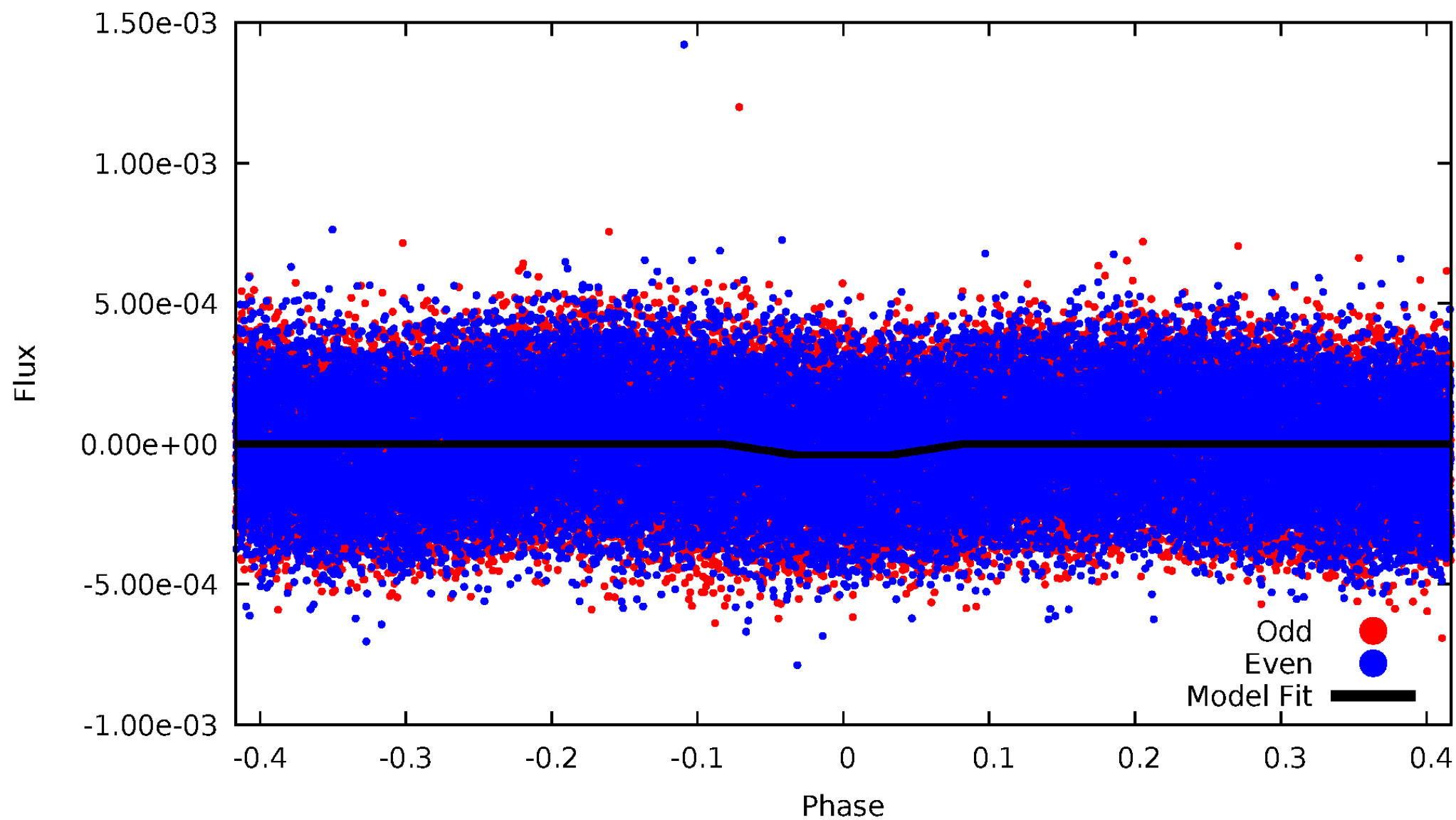
TCE 007301202-01





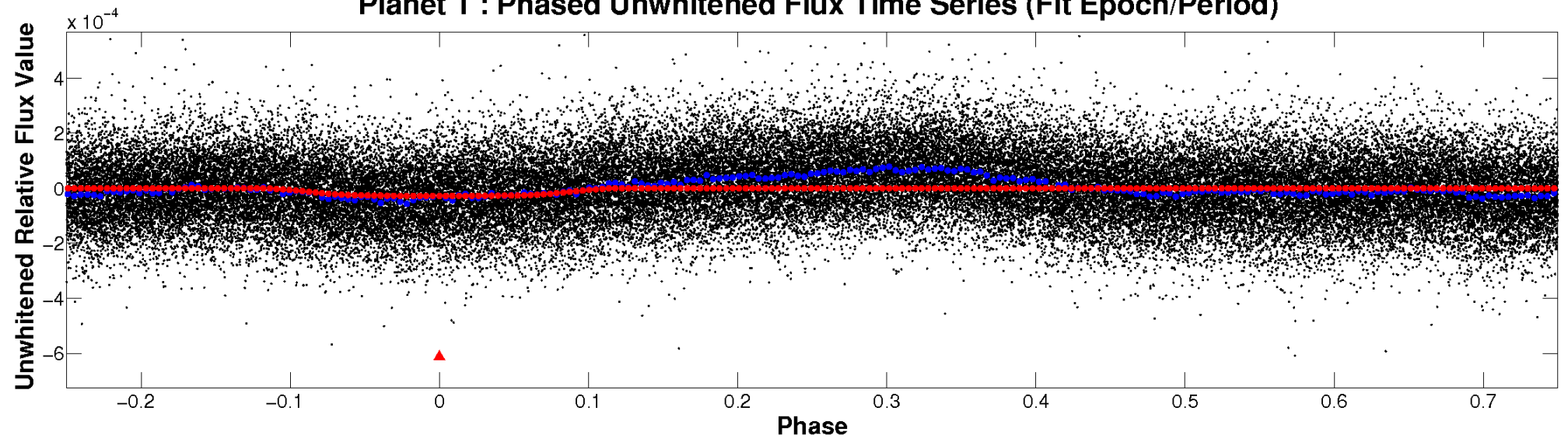
# ALT Odd/Even

TCE 007301202-01

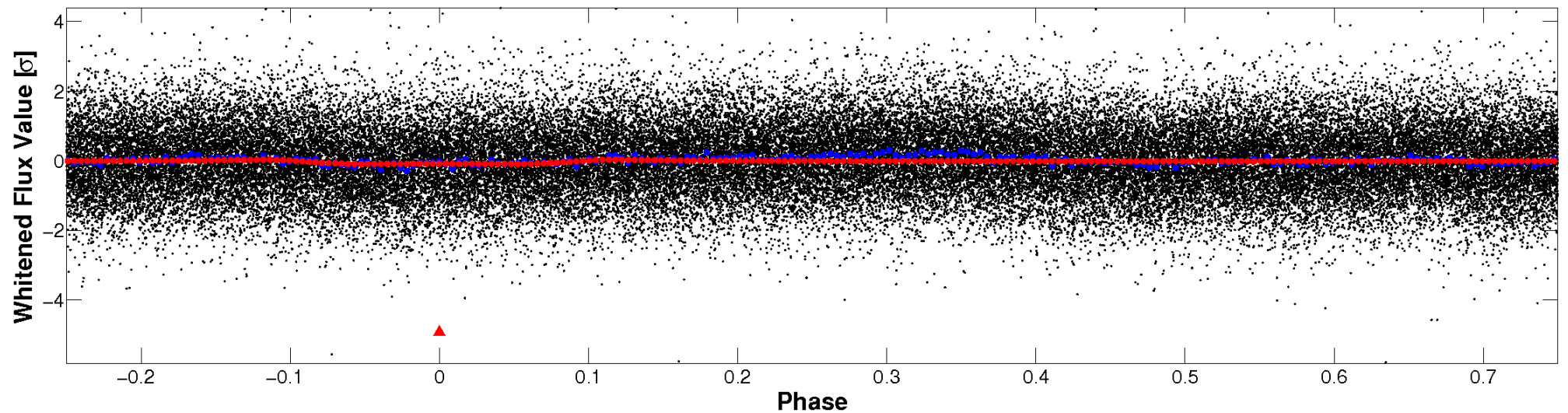


# Non-Whitened Vs. Whitened Light Curve

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

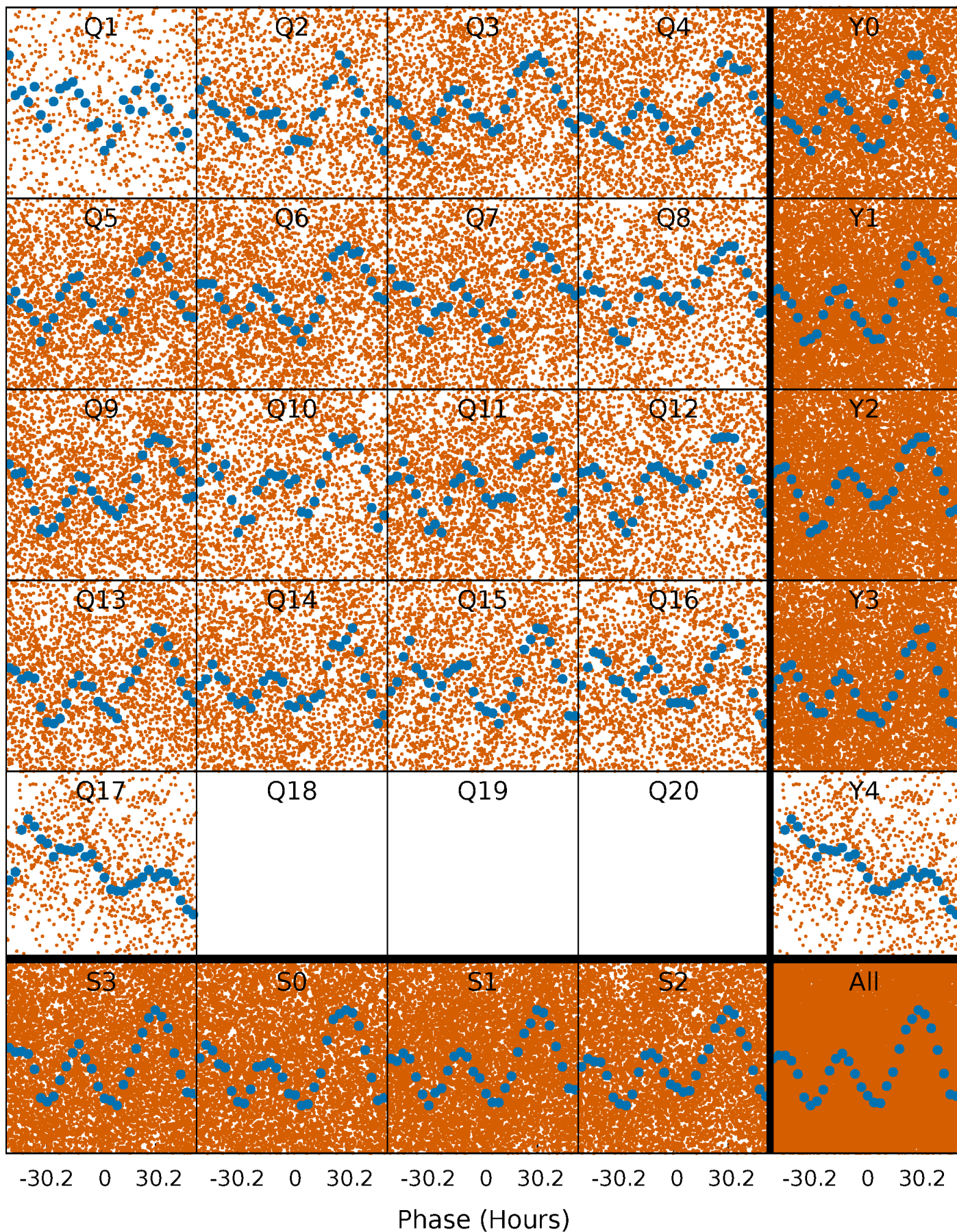


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

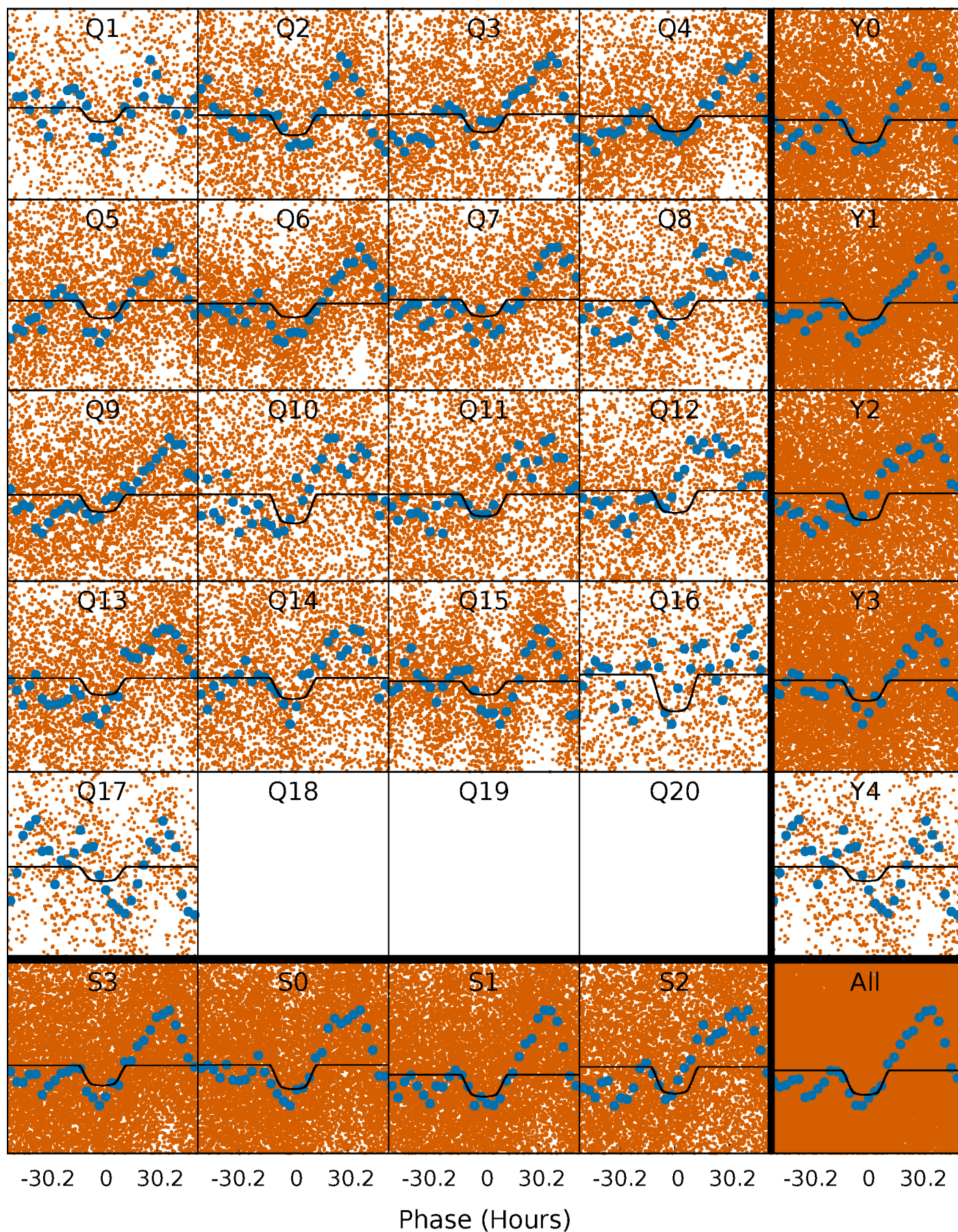
TCE 007301202-01 P= 4.674934 Days  $T_0=134.785450$  (BKJD)





# DV Quarter-Phased Transit Curves

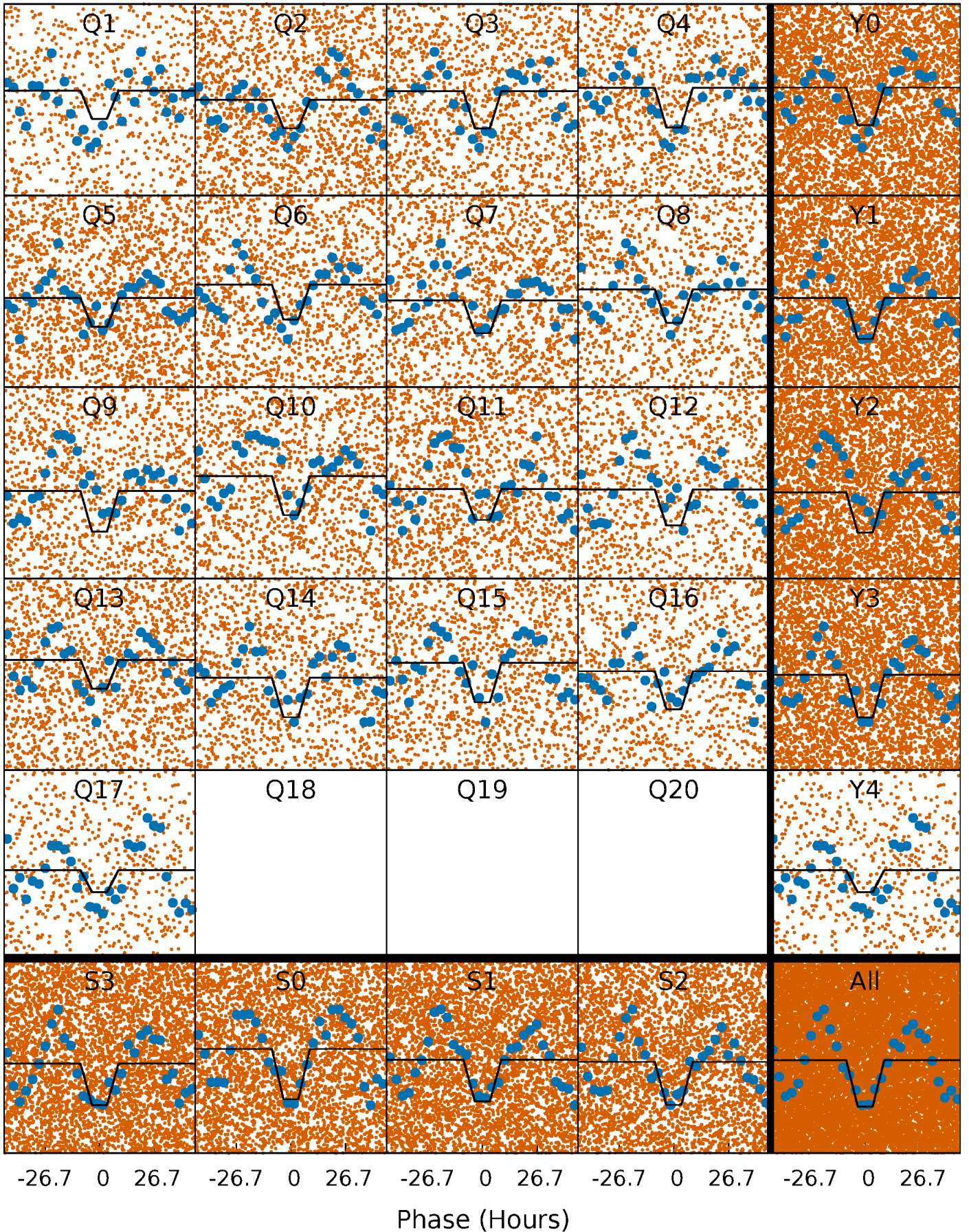
TCE 007301202-01 P= 4.674934 Days  $T_0=134.785450$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

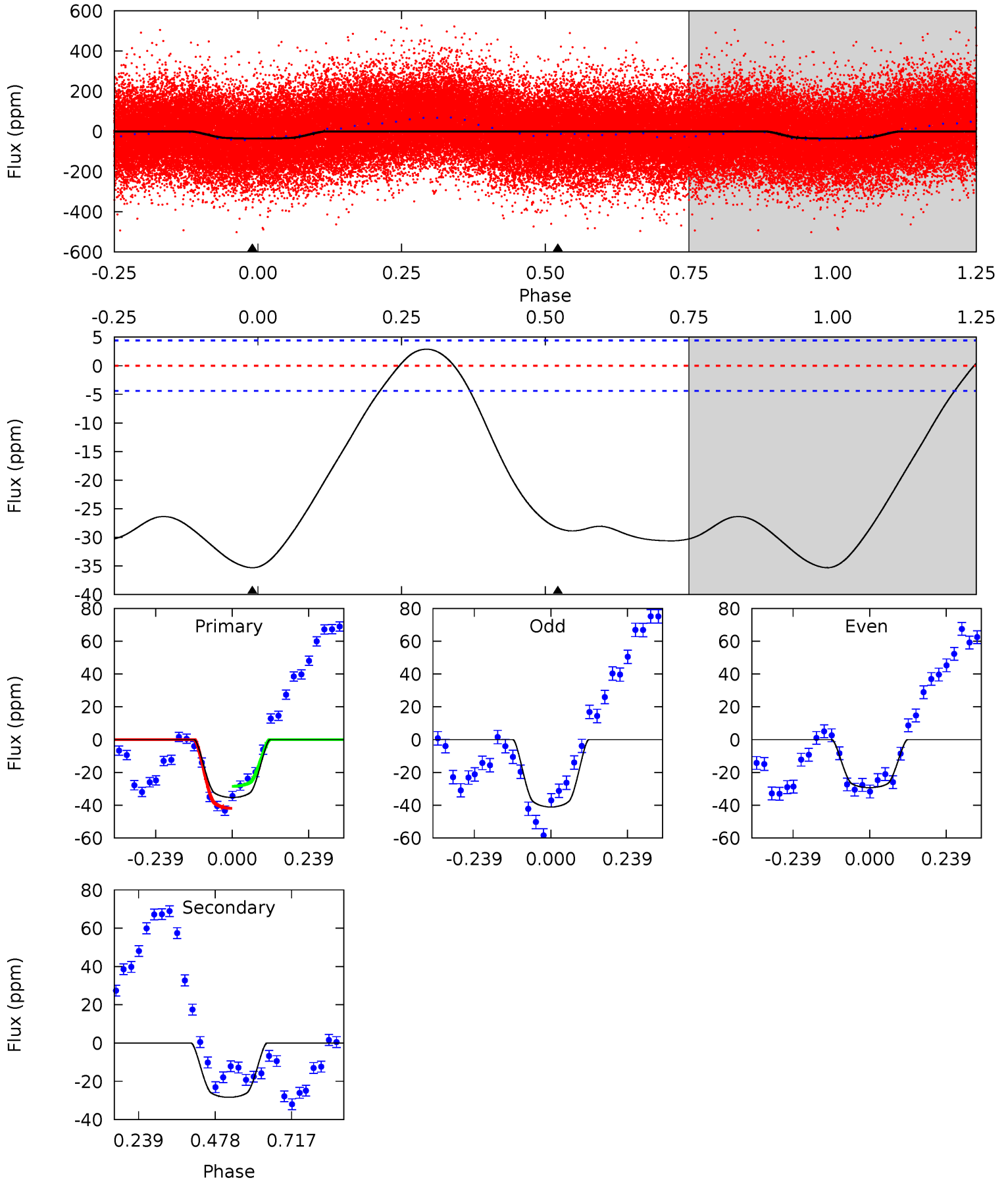
TCE 007301202-01 P= 4.675481 Days  $T_0=135.031452$  (BKJD)



# DV Model-Shift Uniqueness Test

007301202-01, P = 4.674934 Days, E = 130.110516 Days

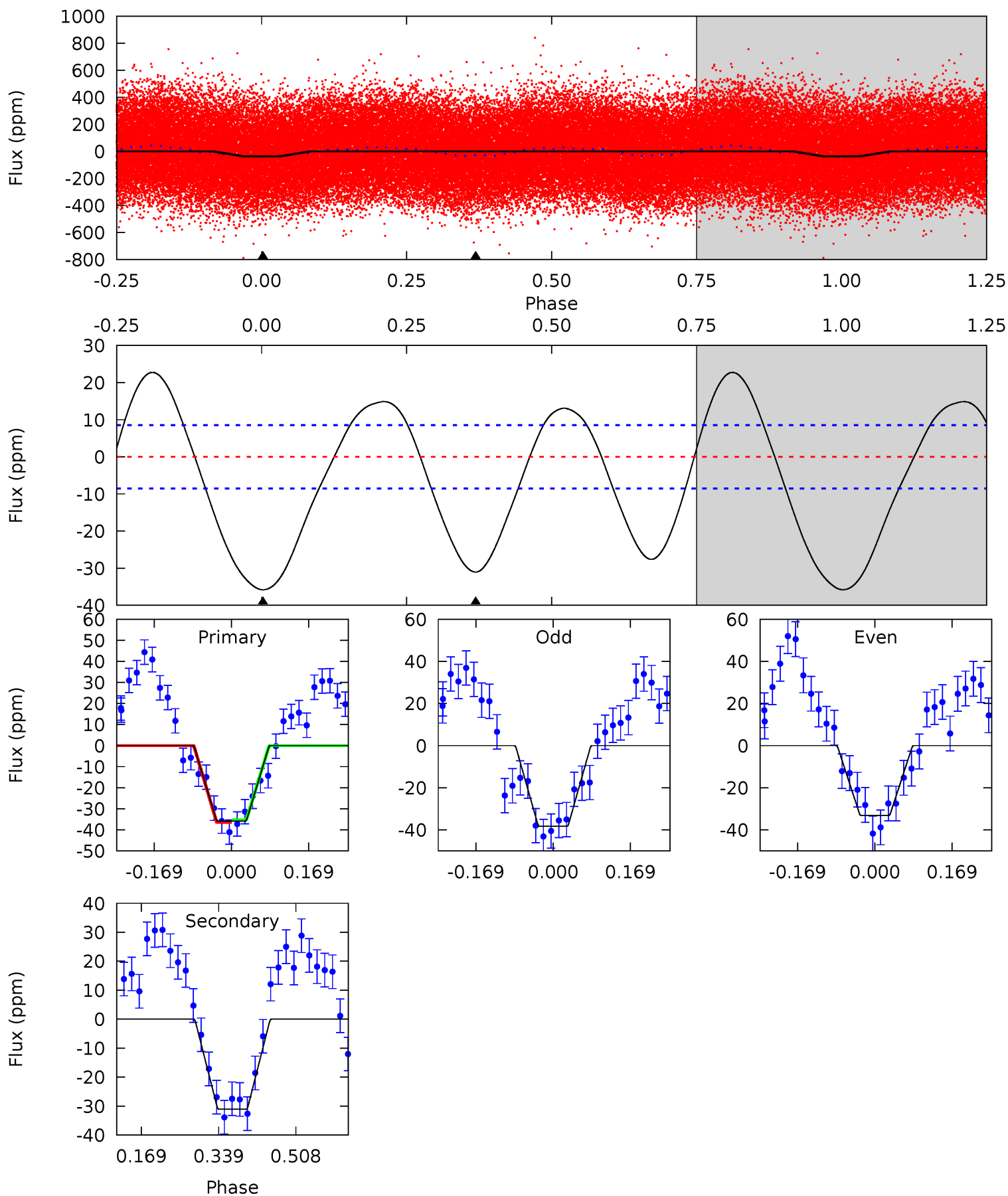
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
35.1	28.2	0	0	4.38	1.18	12.2	35.1	35.1	28.2	28.2	5.85	1.11	0.08	7.08



# Alt Model-Shift Uniqueness Test

007301202-01, P = 4.675481 Days, E = 130.355971 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
18.7	16.2	0	0	4.45	1.37	8.84	18.7	18.7	16.2	16.2	1.34	1.51	0.39	0.33





### Stellar Parameters For KIC 007301202

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5938^{+160}_{-178}$	$3.232^{+0.396}_{-0.044}$	$-0.140^{+0.300}_{-0.350}$	$5.719^{+0.141}_{-2.812}$	$2.037^{+0.109}_{-0.617}$	$0.015^{+0.058}_{-0.001}$
	+3%/-3%	+12%/-1%	+214%/-250%	+2%/-49%	+5%/-30%	+378%/-8%
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 007301202-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-28 \pm 1$	$4.06^{+0.40}_{-0.85}$	$3260^{+132}_{-305}$	$5226^{+231}_{-205}$	$4.634^{+2.052}_{-0.809}$
Alt.	$-31 \pm 2$	$3.76^{+0.40}_{-0.84}$	$3266^{+134}_{-334}$	$5551^{+273}_{-257}$	$5.878^{+3.140}_{-1.145}$

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

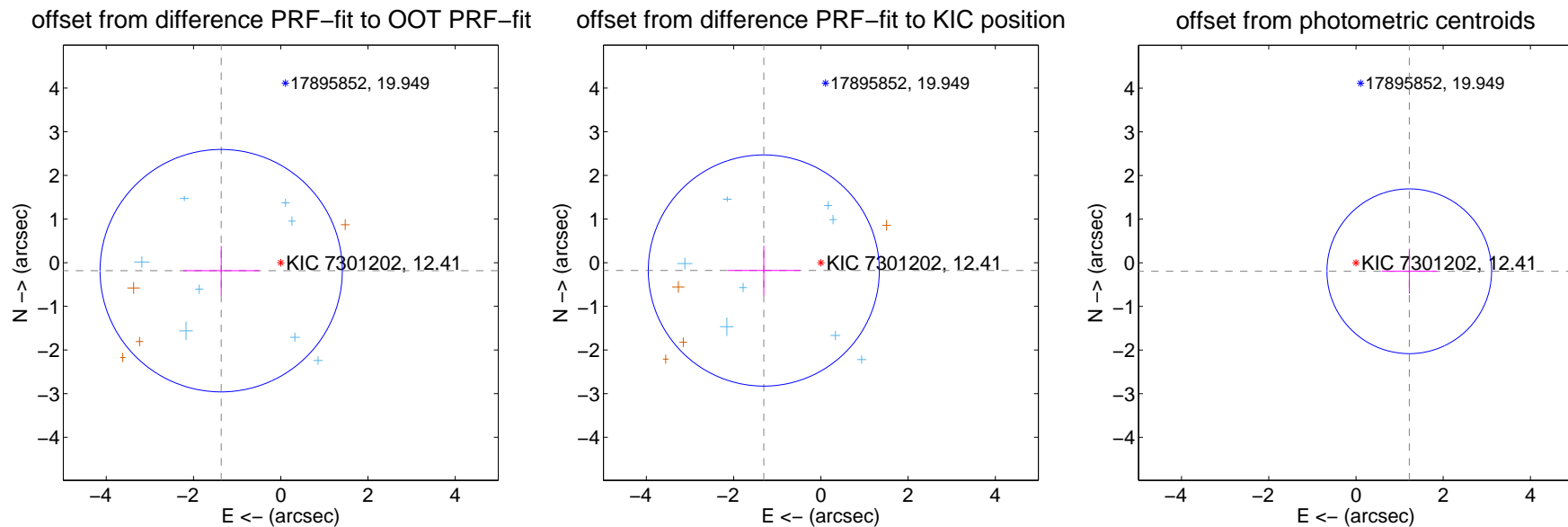
## DV Centroid Data

Supplemental centroid analysis for 007301202-01. Kepler magnitude: 12.41. Transit SNR 9.05

There are 8 quarters with good PRF difference image offsets

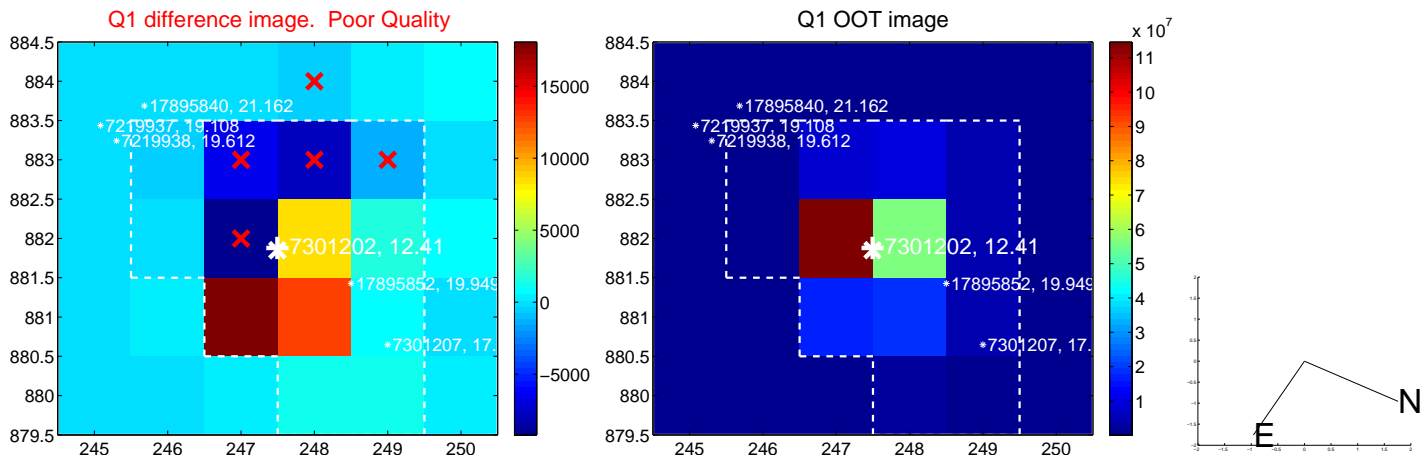
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.378 \pm 0.926$	1.49	$1.366 \pm 0.874$	$-0.183 \pm 0.564$
PRF-fit source offset from KIC position	$1.320 \pm 0.883$	1.50	$1.308 \pm 0.832$	$-0.179 \pm 0.565$
photometric centroid source offset	$1.24 \pm 0.63$	1.97	$-1.22 \pm 0.63$	$-0.19 \pm 0.52$

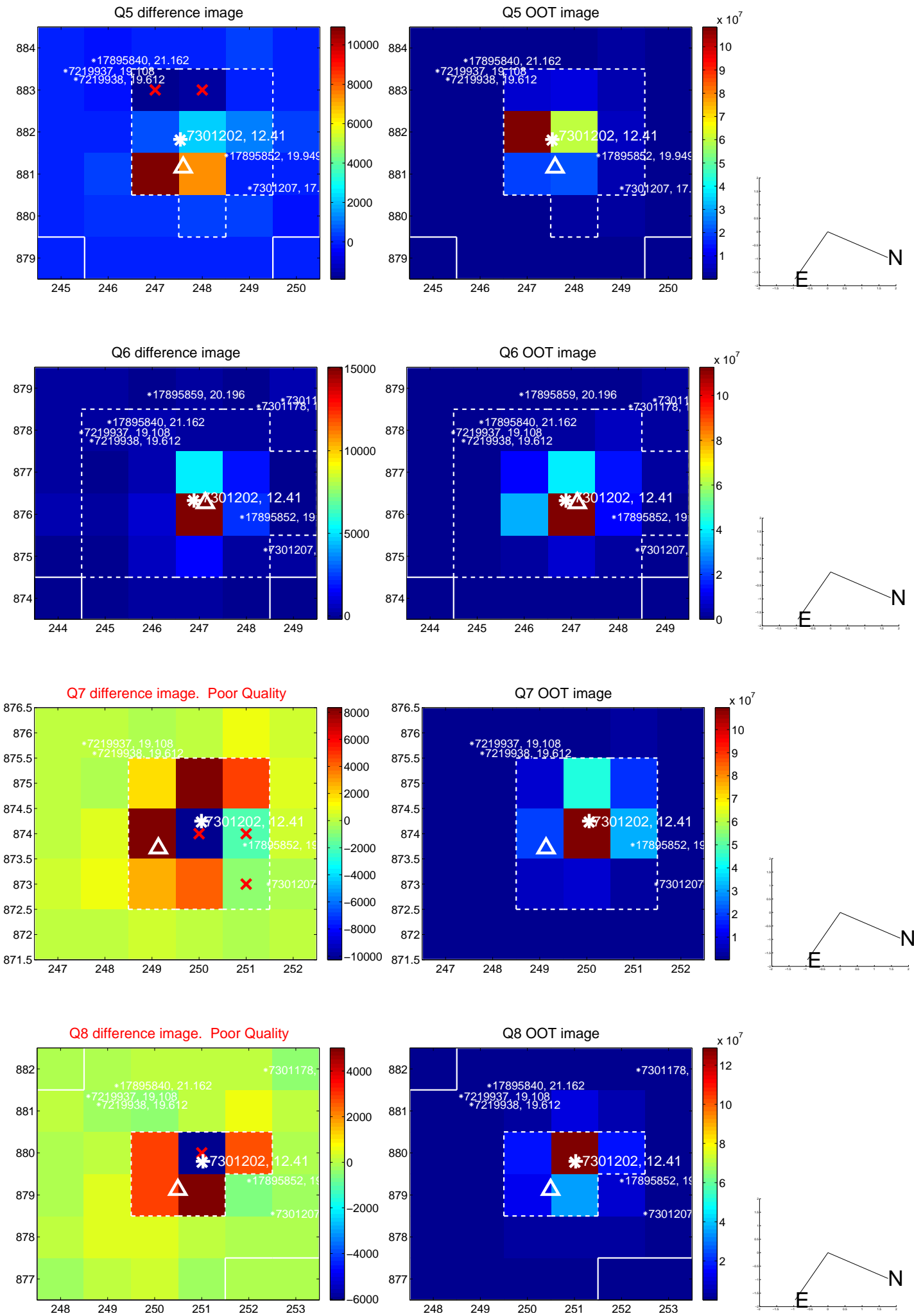


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

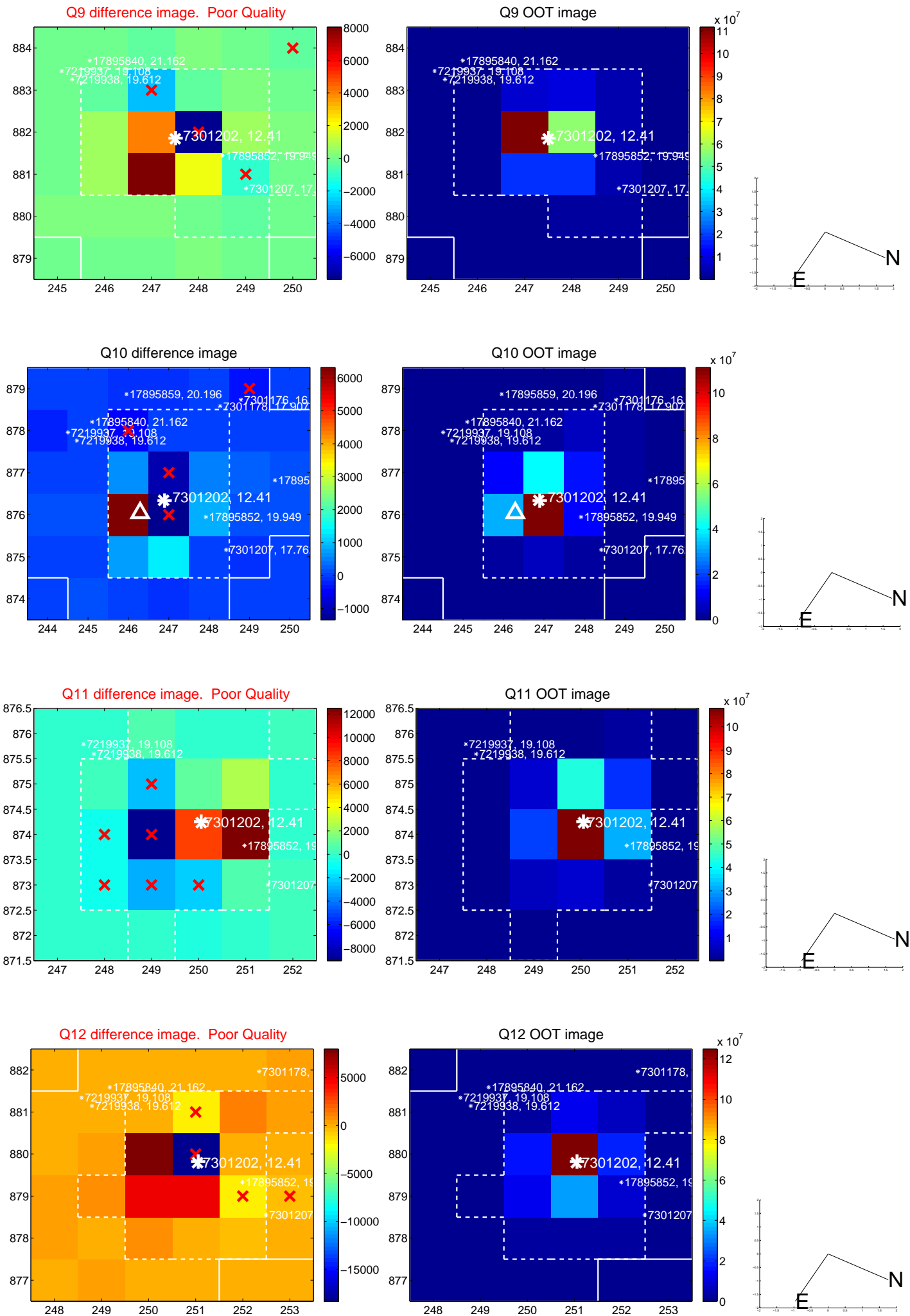


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

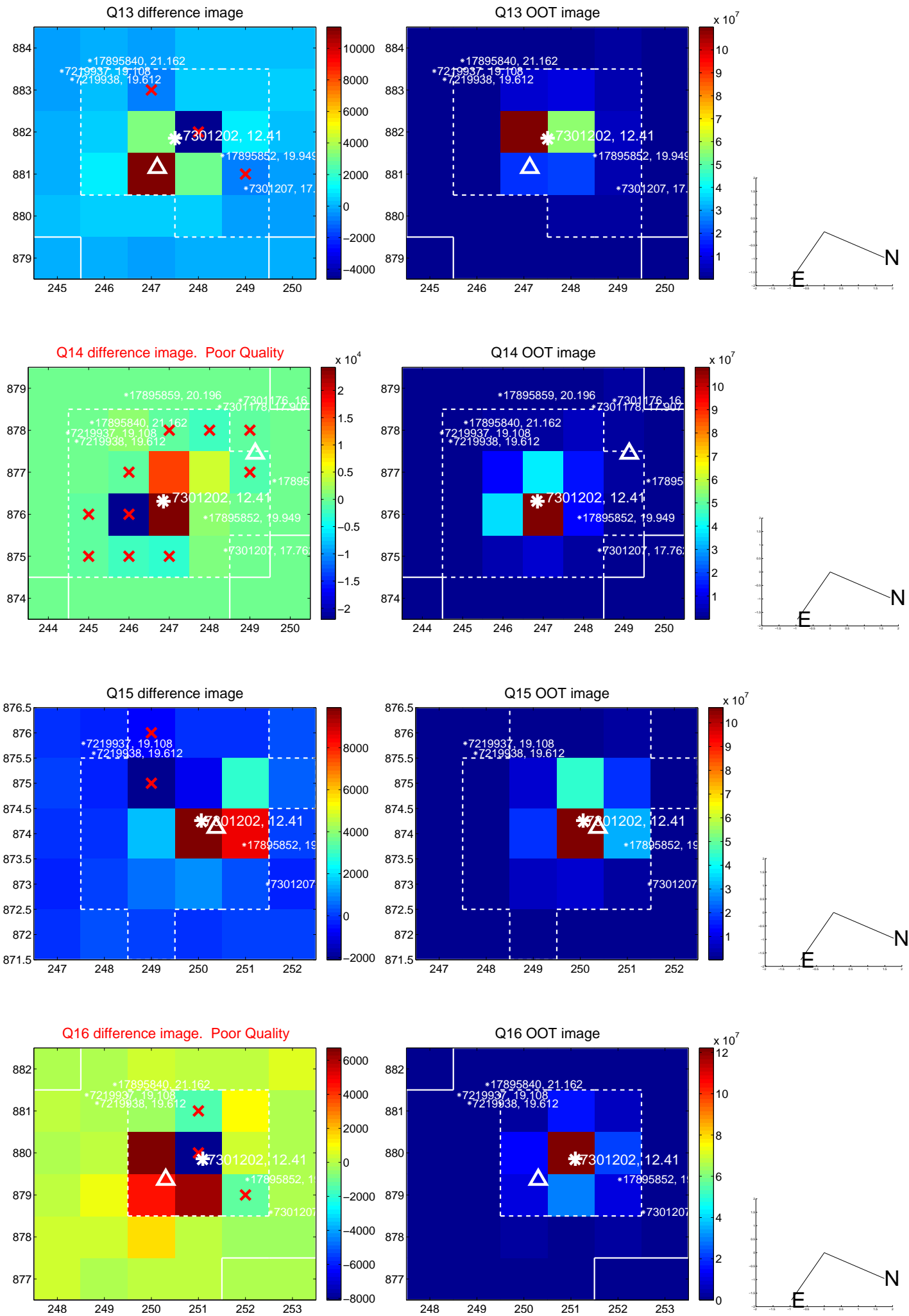




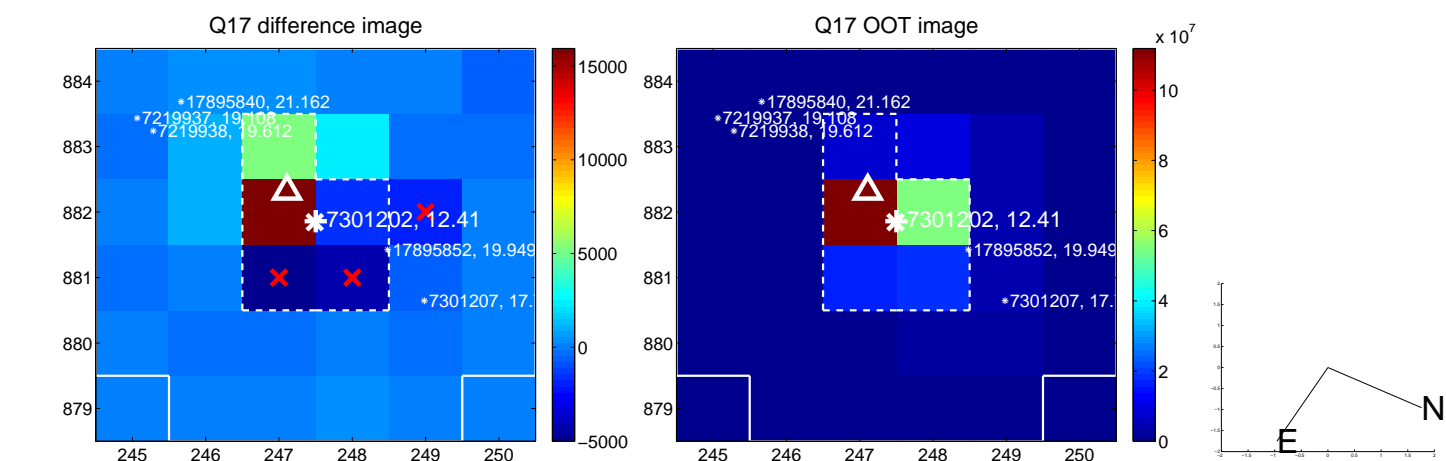
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.



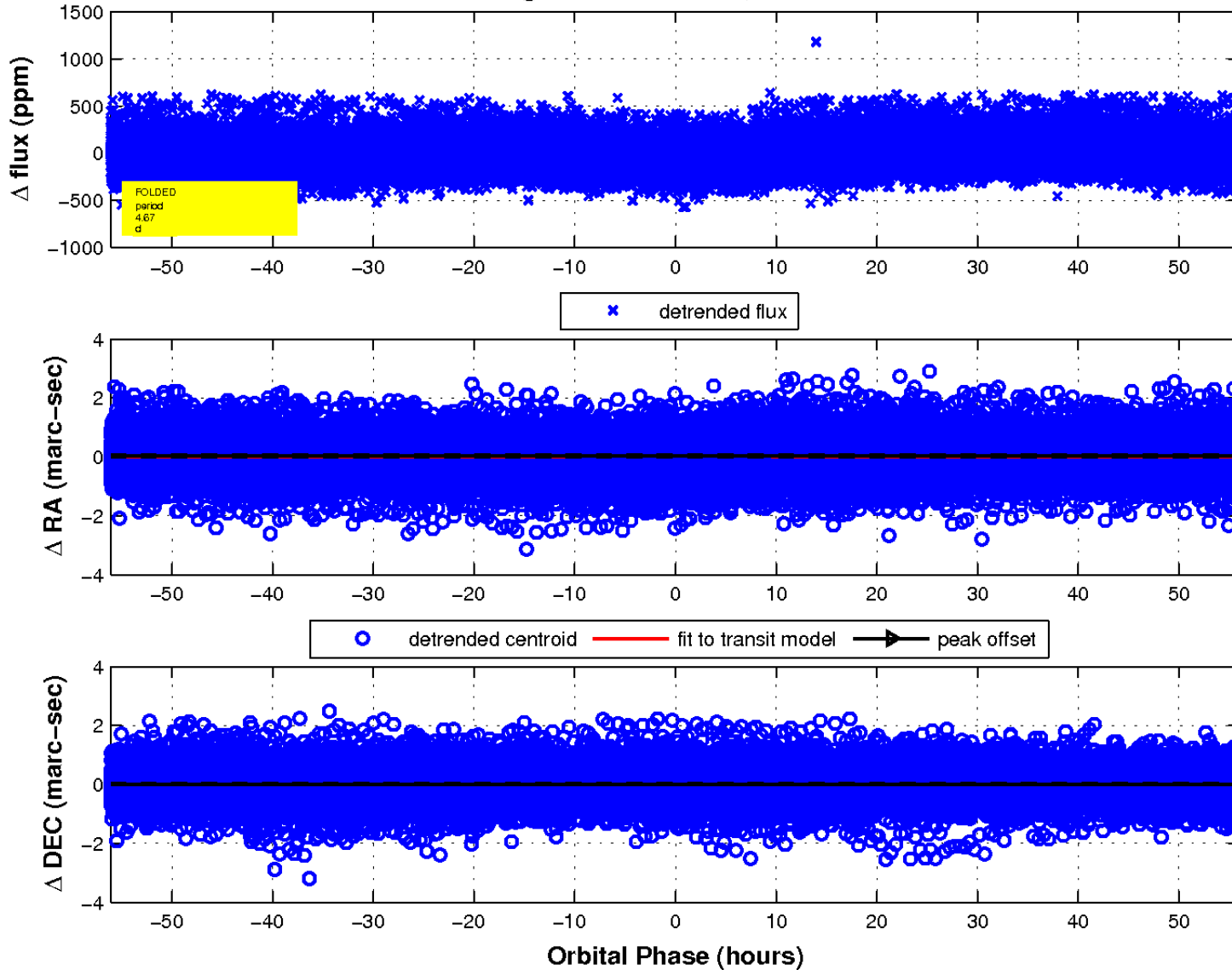
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

