

# KIC 004243461

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004243461-01	OBS	No	0.705061	132.000017	13.8	3.542	8.7	4.8	1.64	7167	0.66	21134.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004243461-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—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.

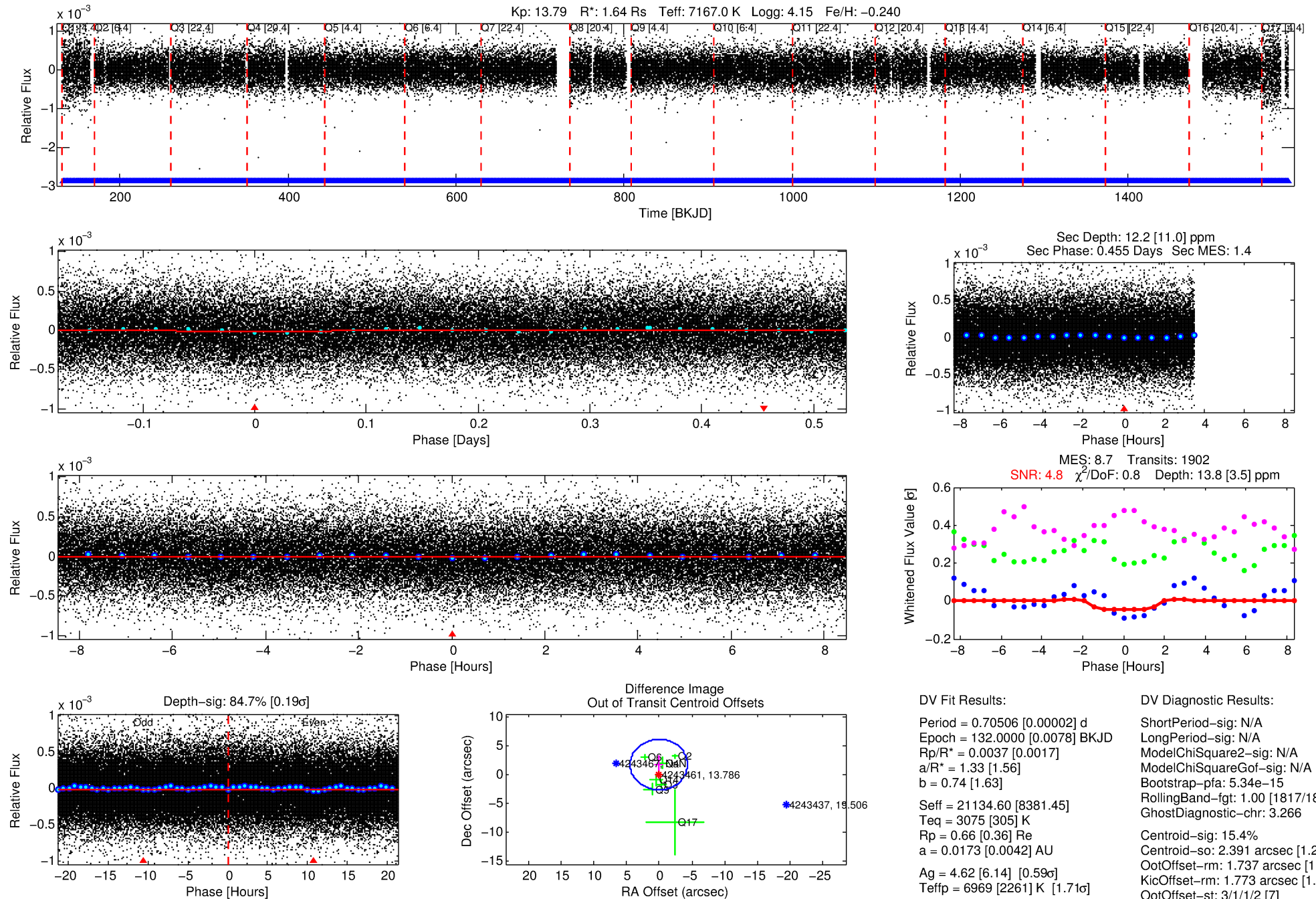
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004243461-01

No Significant Match Found

# DV One-Page Summary

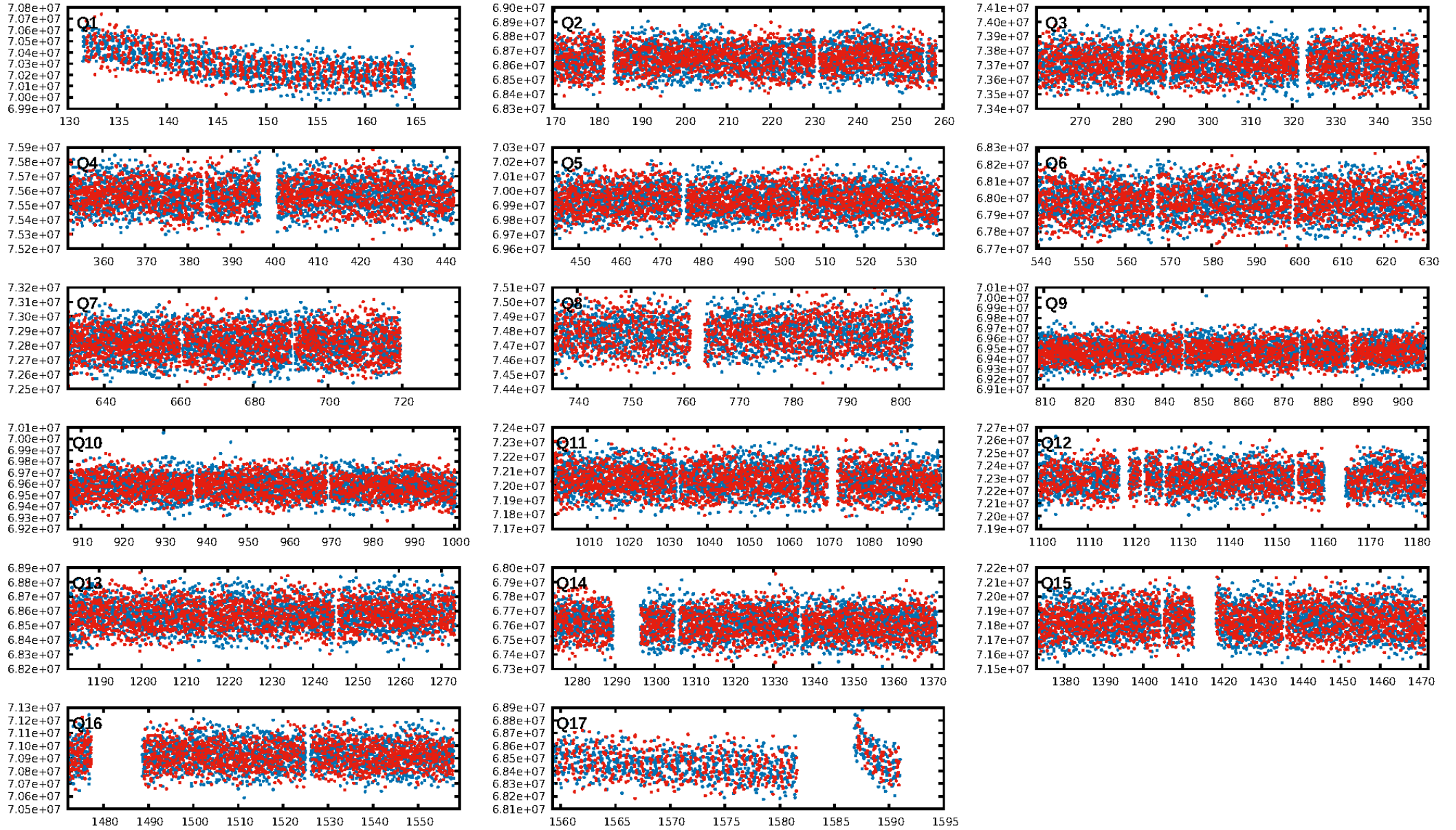
KIC: 4243461 Candidate: 1 of 1 Period: 0.705 d



Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 03:44:01 Z

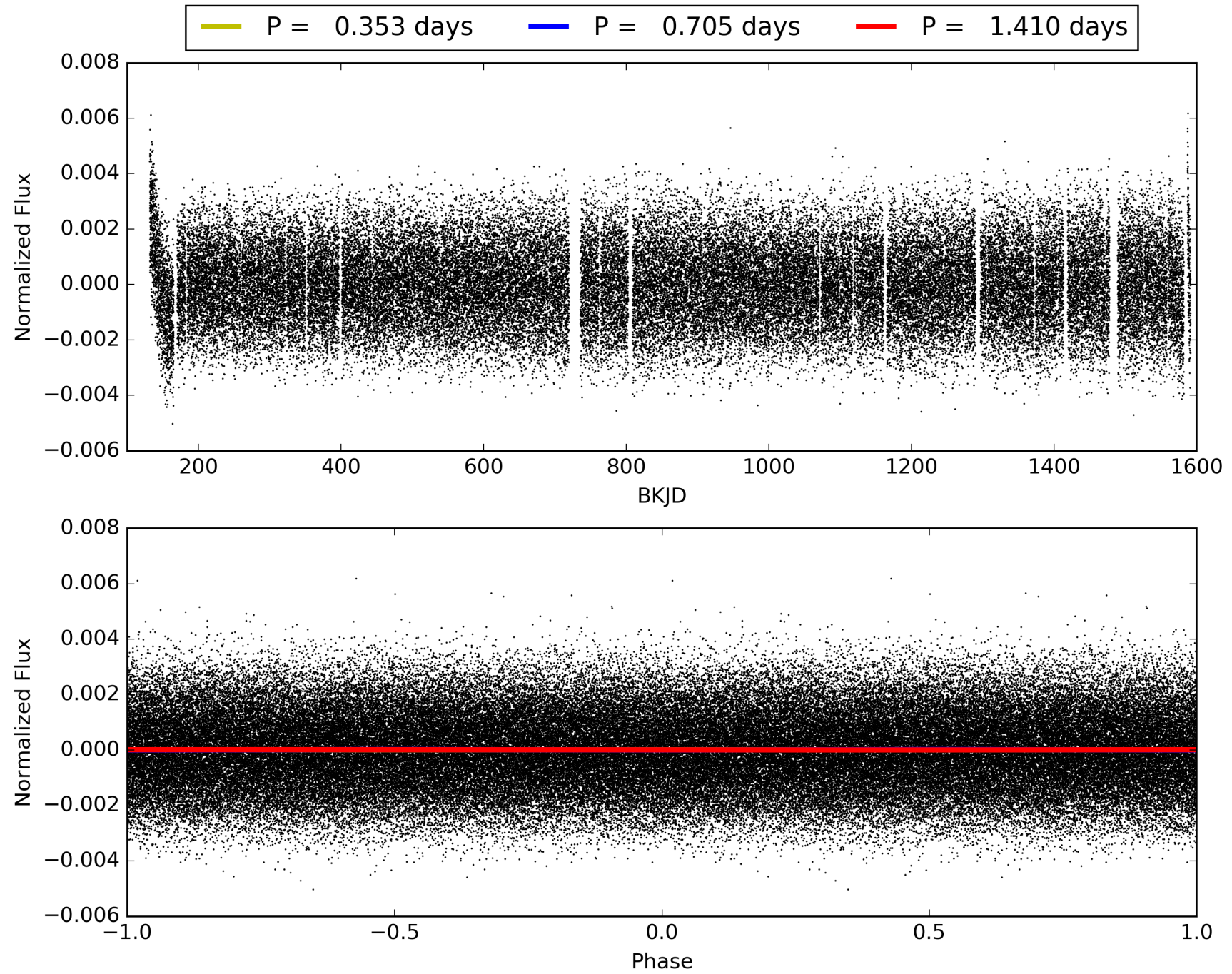
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004243461-01, PDC Light Curves



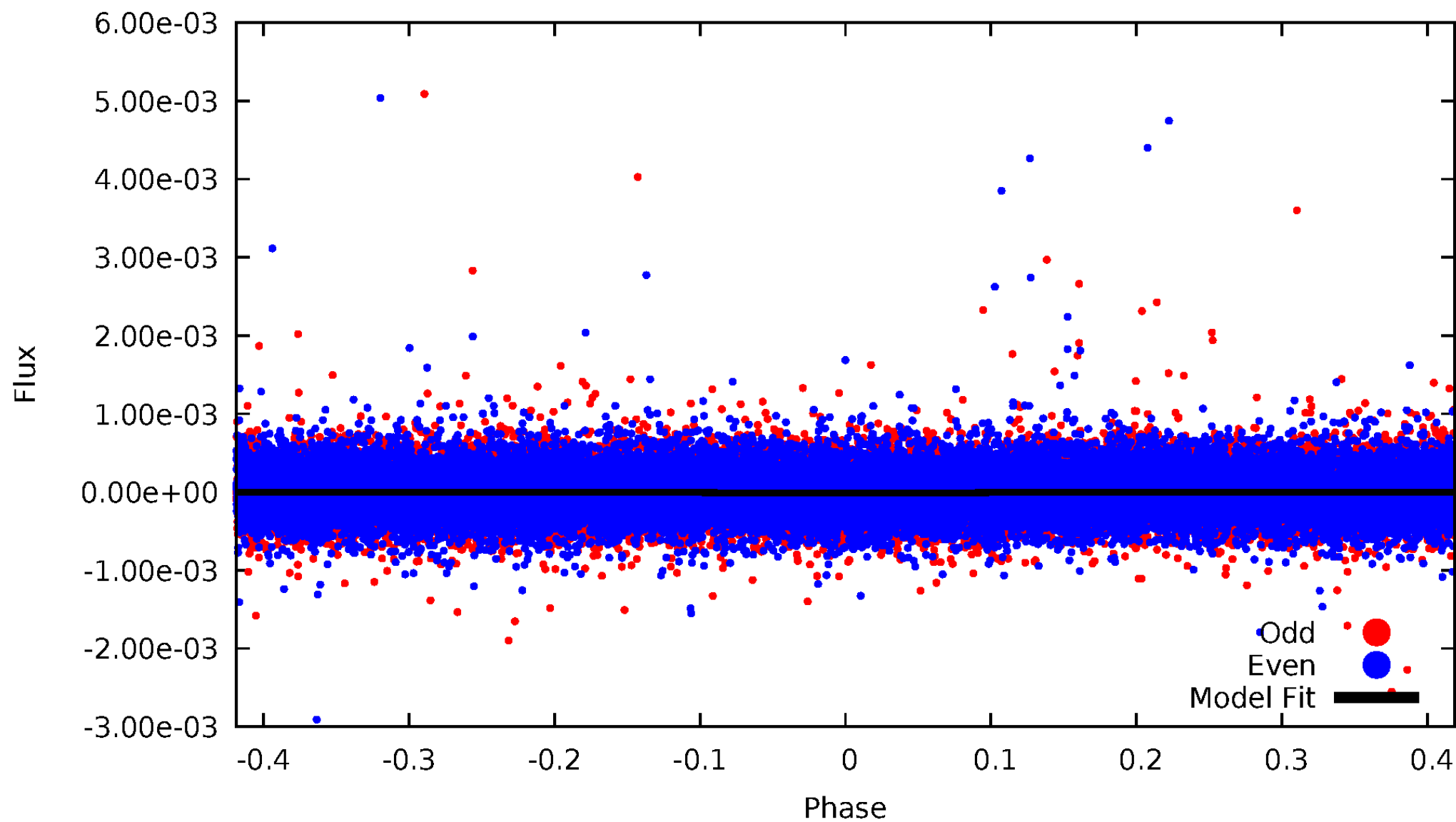


TCE 004243461-01



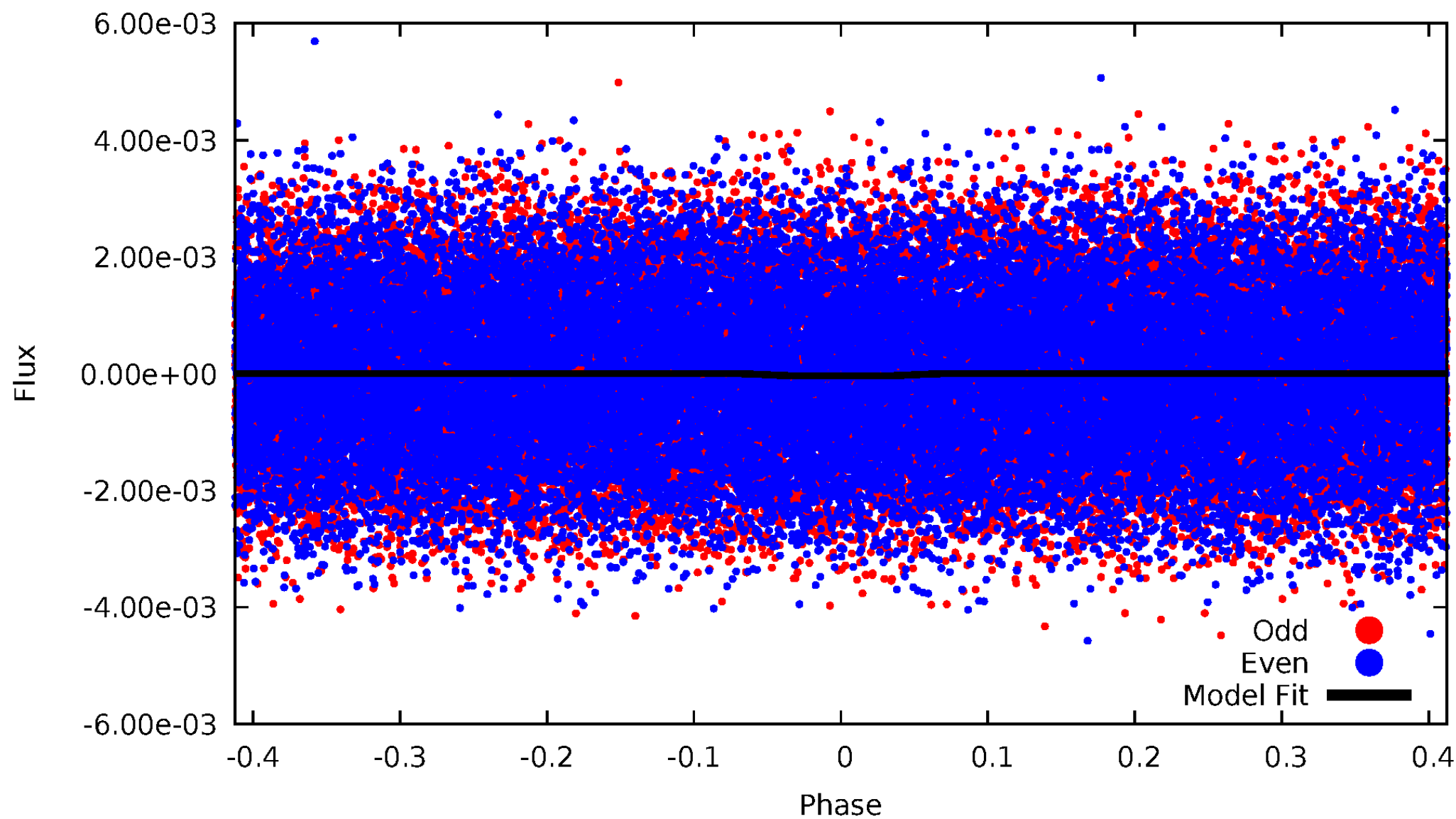
# DV Odd/Even

TCE 004243461-01



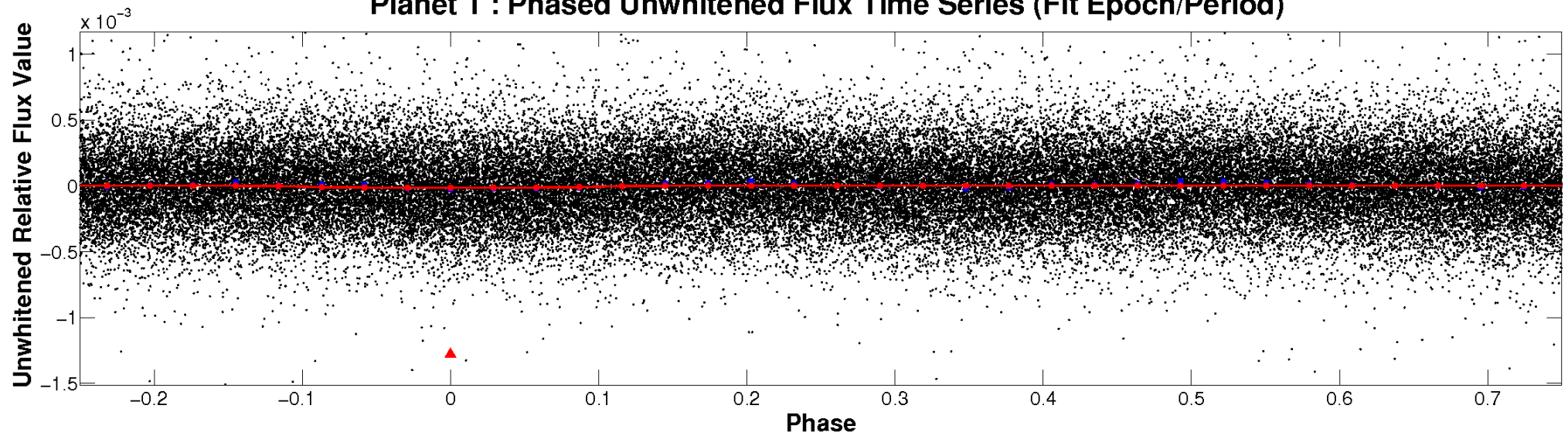
# ALT Odd/Even

TCE 004243461-01

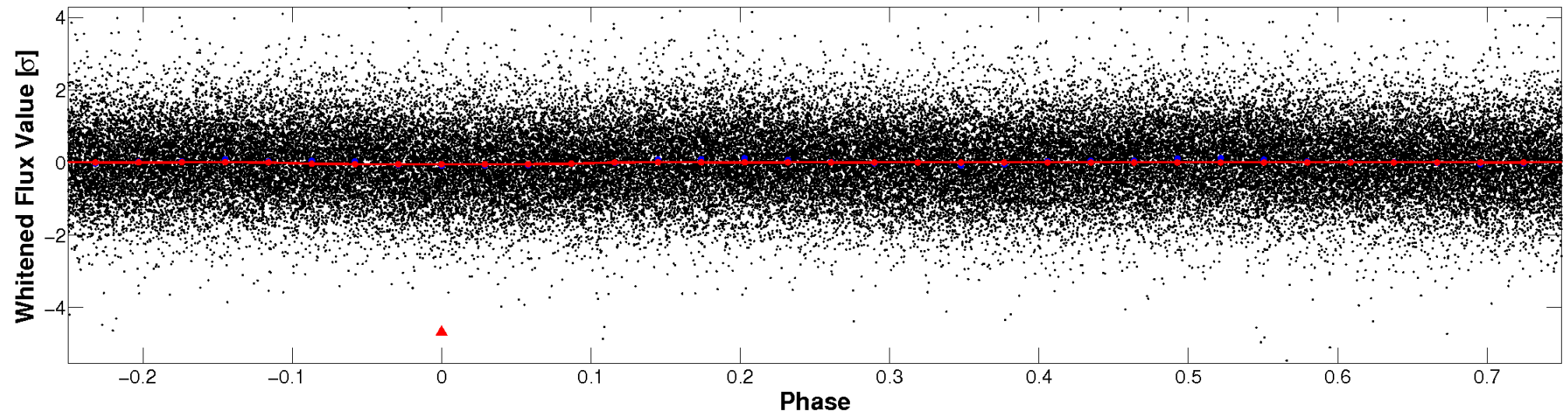


# Non-Whitened Vs. Whitened Light Curve

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



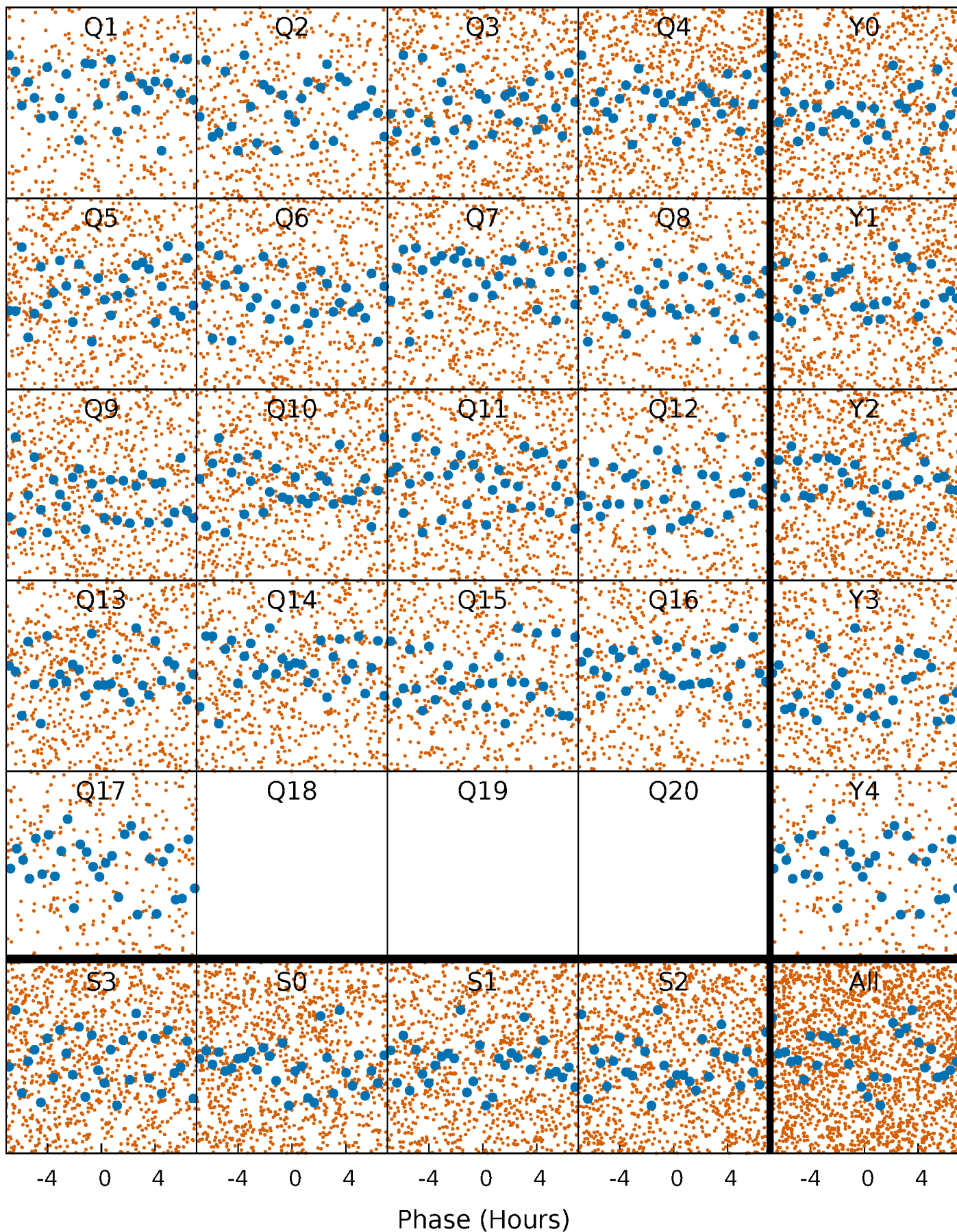
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

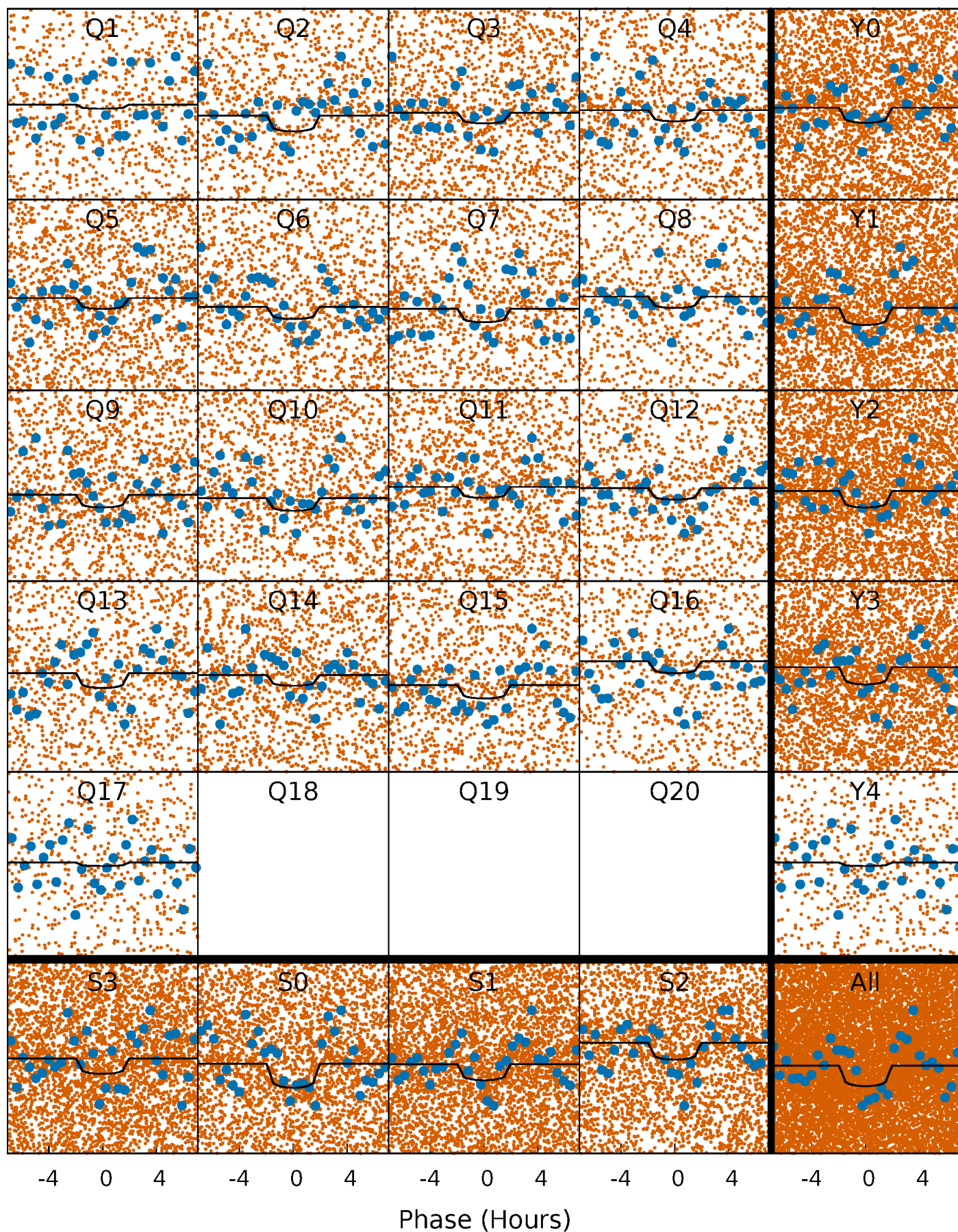
TCE 004243461-01 P= 0.705061 Days  $T_0=132.000017$  (BKJD)





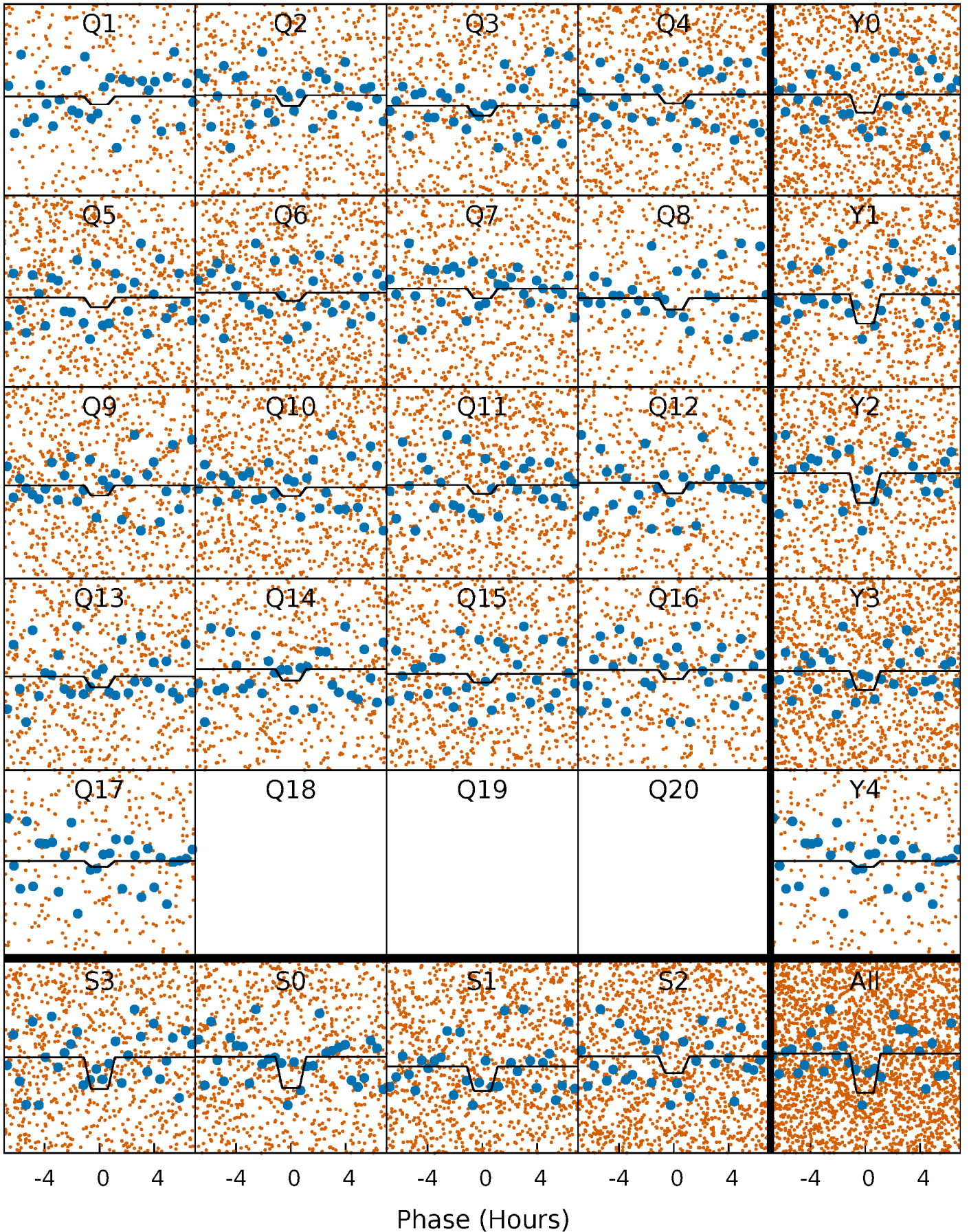
# DV Quarter-Phased Transit Curves

TCE 004243461-01 P= 0.705061 Days  $T_0=132.000017$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

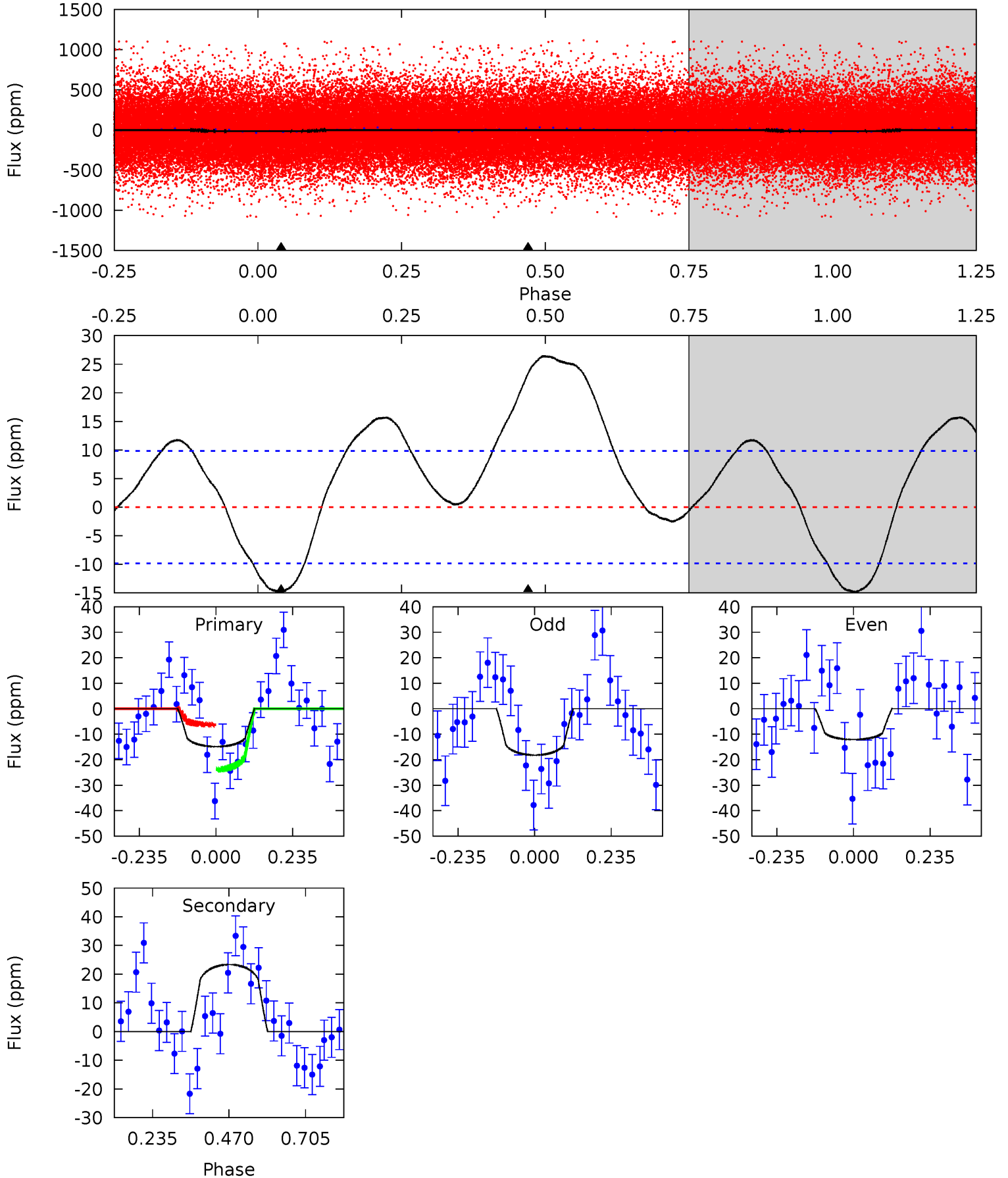
TCE 004243461-01 P= 0.705085 Days  $T_0=131.999259$  (BKJD)



# DV Model-Shift Uniqueness Test

004243461-01, P = 0.705061 Days, E = 131.294956 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
6.63	-10.4	0	0	4.38	1.19	1.20	6.63	6.63	-10.4	-10.4	1.38	0.96	0.64	4.04

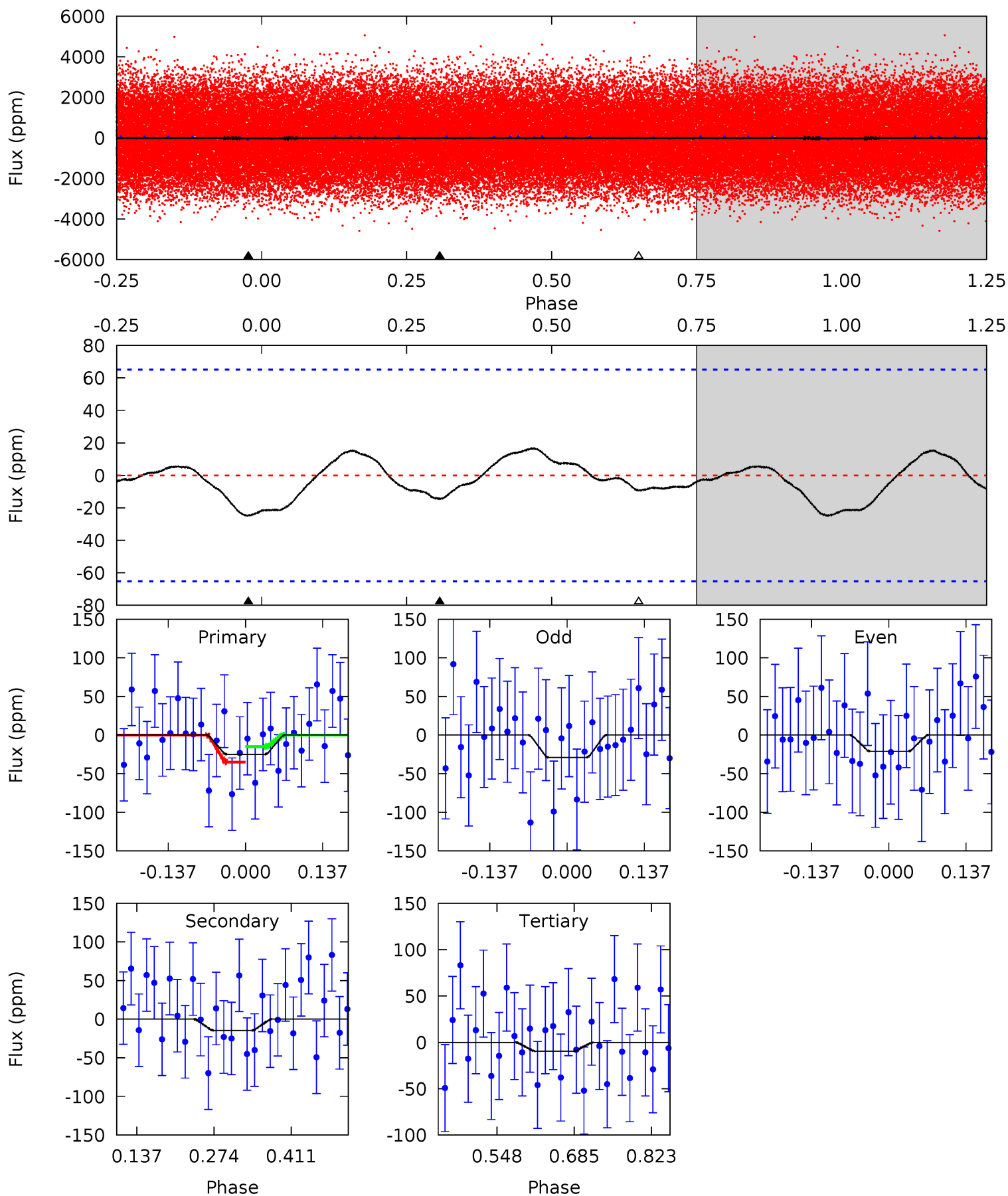




# Alt Model-Shift Uniqueness Test

004243461-01, P = 0.705085 Days, E = 131.294174 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
1.72	1.01	0.65	0	4.50	1.49	0.56	1.07	1.72	0.35	1.01	0.27	0.95	0.40	0.69





### Stellar Parameters For KIC 004243461

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7167^{+199}_{-342}$	$4.154^{+0.153}_{-0.187}$	$-0.240^{+0.250}_{-0.350}$	$1.639^{+0.482}_{-0.351}$	$1.398^{+0.214}_{-0.235}$	$0.447^{+0.360}_{-0.232}$
	+3%/-5%	+4%/-5%	+104%/-146%	+29%/-21%	+15%/-17%	+80%/-52%
Source	KIC0	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 004243461-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$23 \pm 2$	$0.67^{+0.31}_{-0.32}$	$4270^{+318}_{-268}$	$-8371^{+1628}_{-4683}$	$-8.521^{+4.615}_{-21.842}$
Alt.	$-15 \pm 14$	$1.06^{+0.36}_{-0.31}$	$4293^{+321}_{-289}$	$5385^{+1811}_{-9255}$	$1.940^{+3.926}_{-1.952}$

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

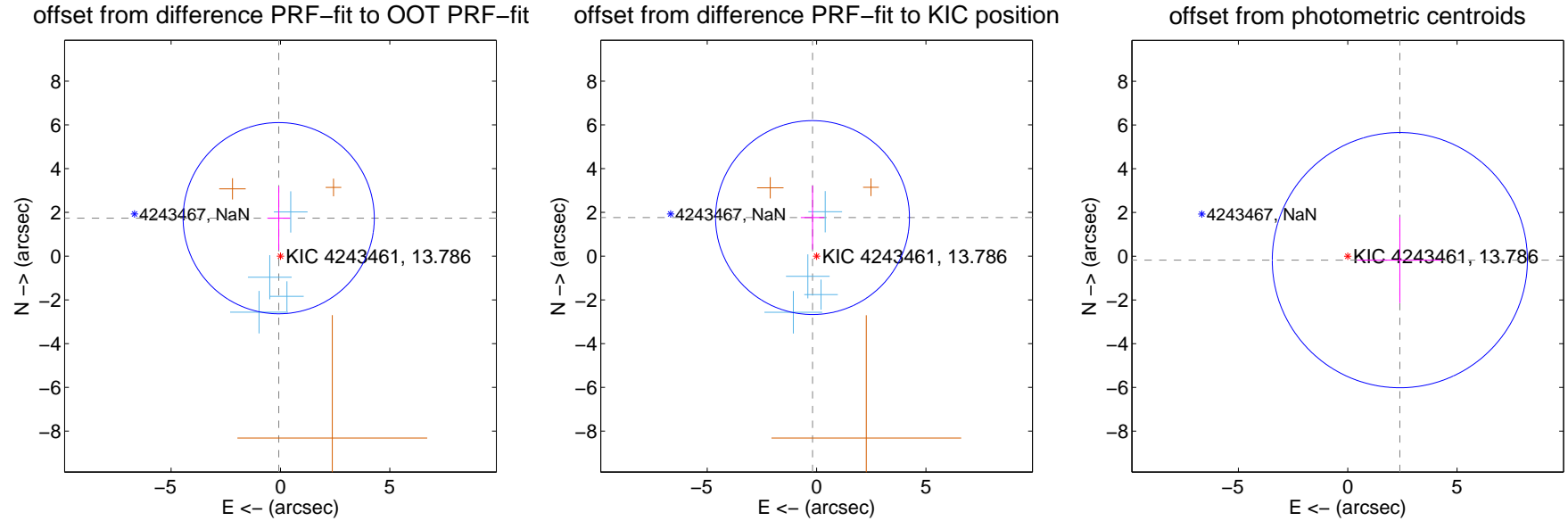
## DV Centroid Data

Supplemental centroid analysis for 004243461-01. Kepler magnitude: 13.79. Transit SNR 4.81

There are 4 quarters with good PRF difference image offsets

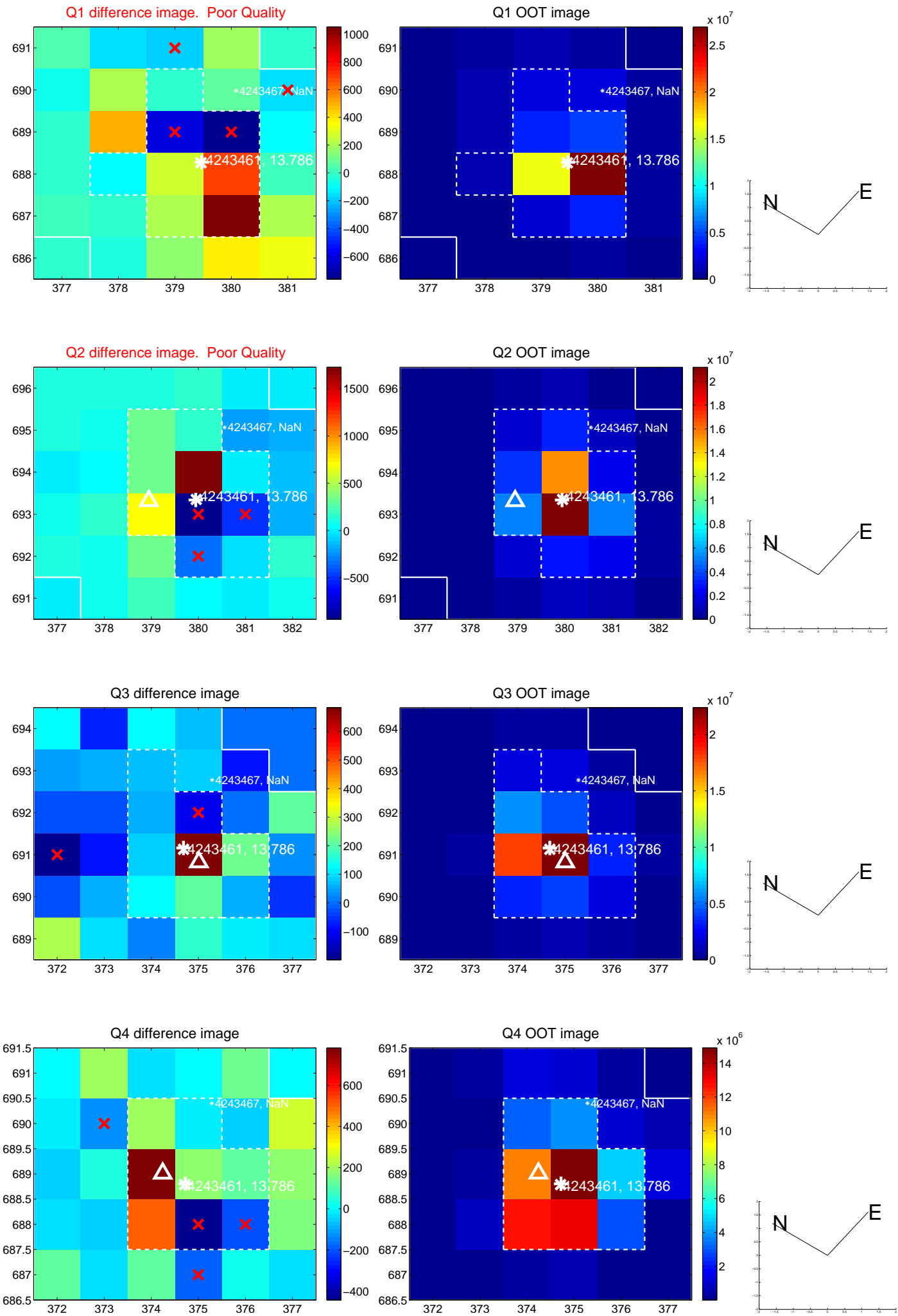
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.737 \pm 1.457$	1.19	$0.079 \pm 0.520$	$1.735 \pm 1.449$
PRF-fit source offset from KIC position	$1.773 \pm 1.478$	1.20	$0.186 \pm 0.534$	$1.763 \pm 1.457$
photometric centroid source offset	$2.39 \pm 1.95$	1.23	$-2.38 \pm 1.95$	$-0.18 \pm 1.96$

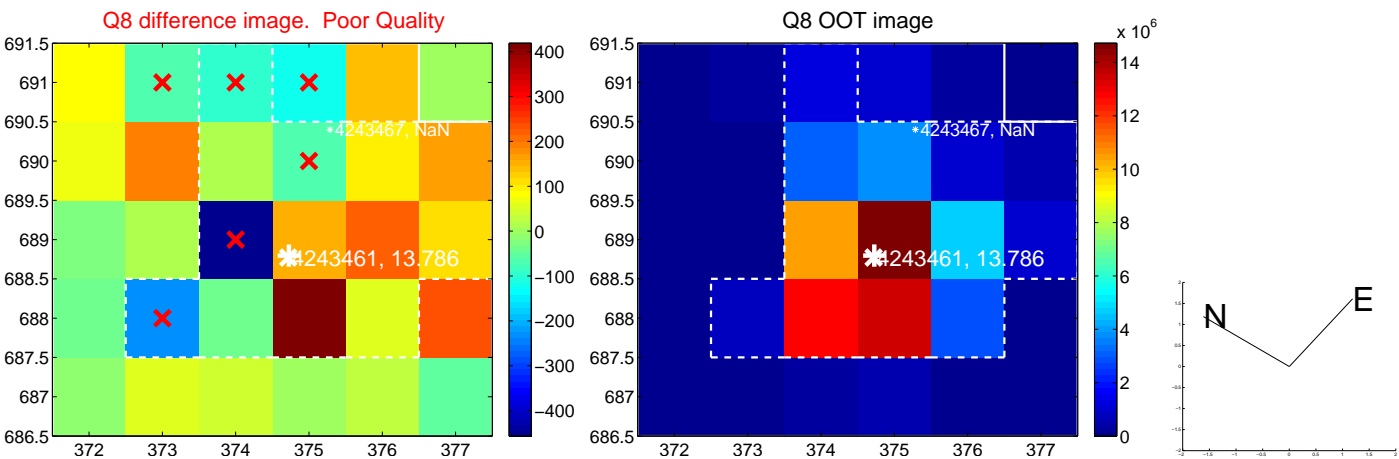
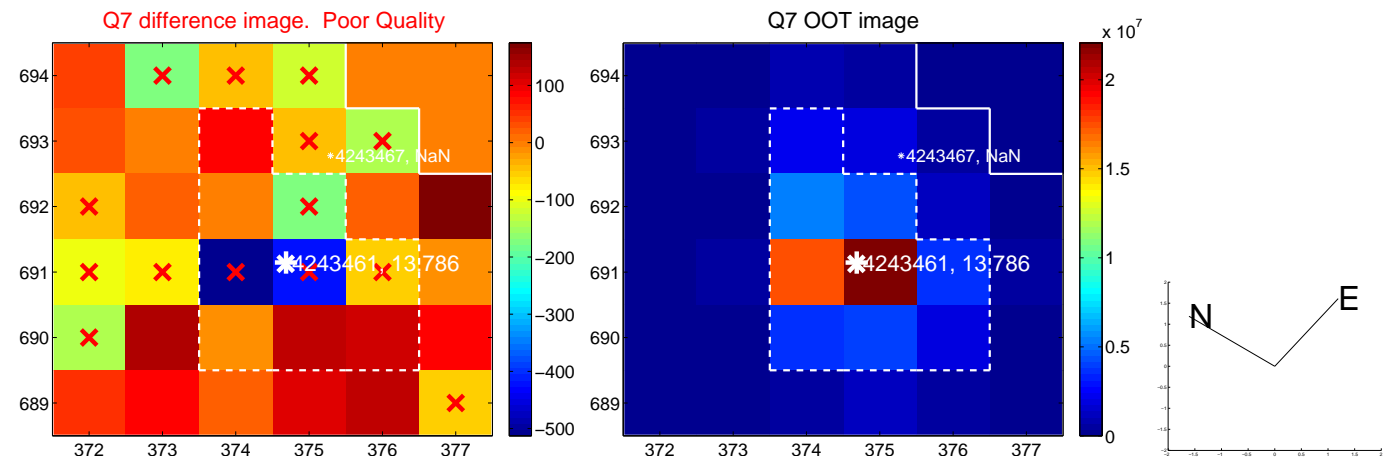
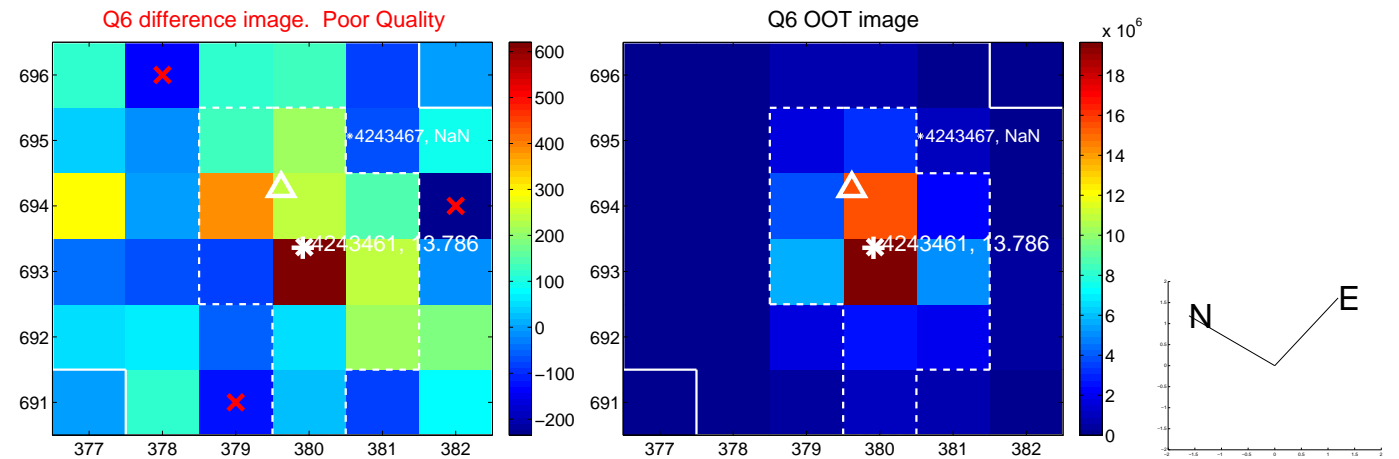
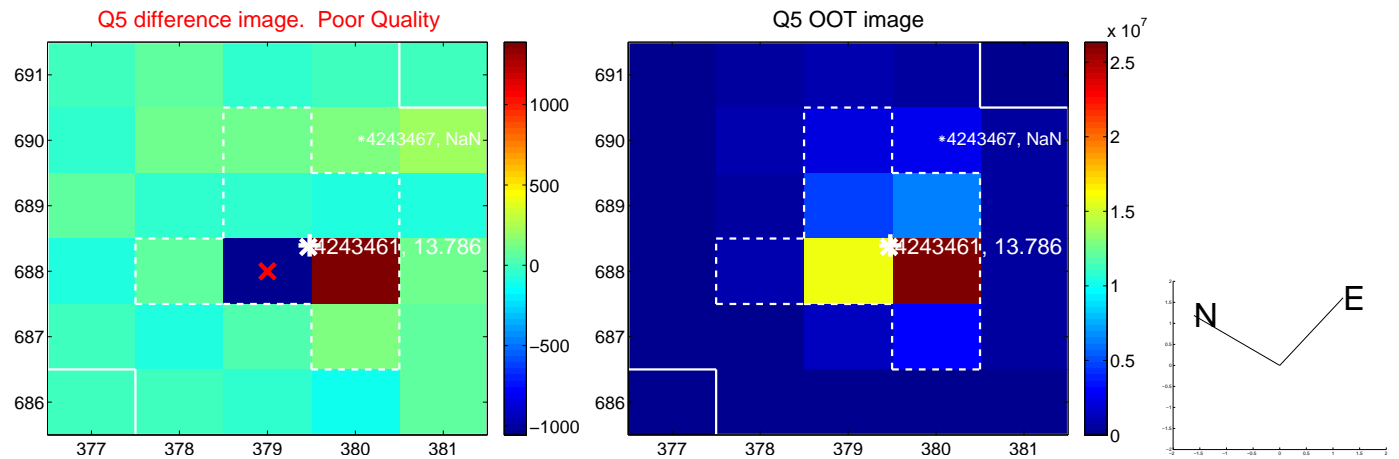


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

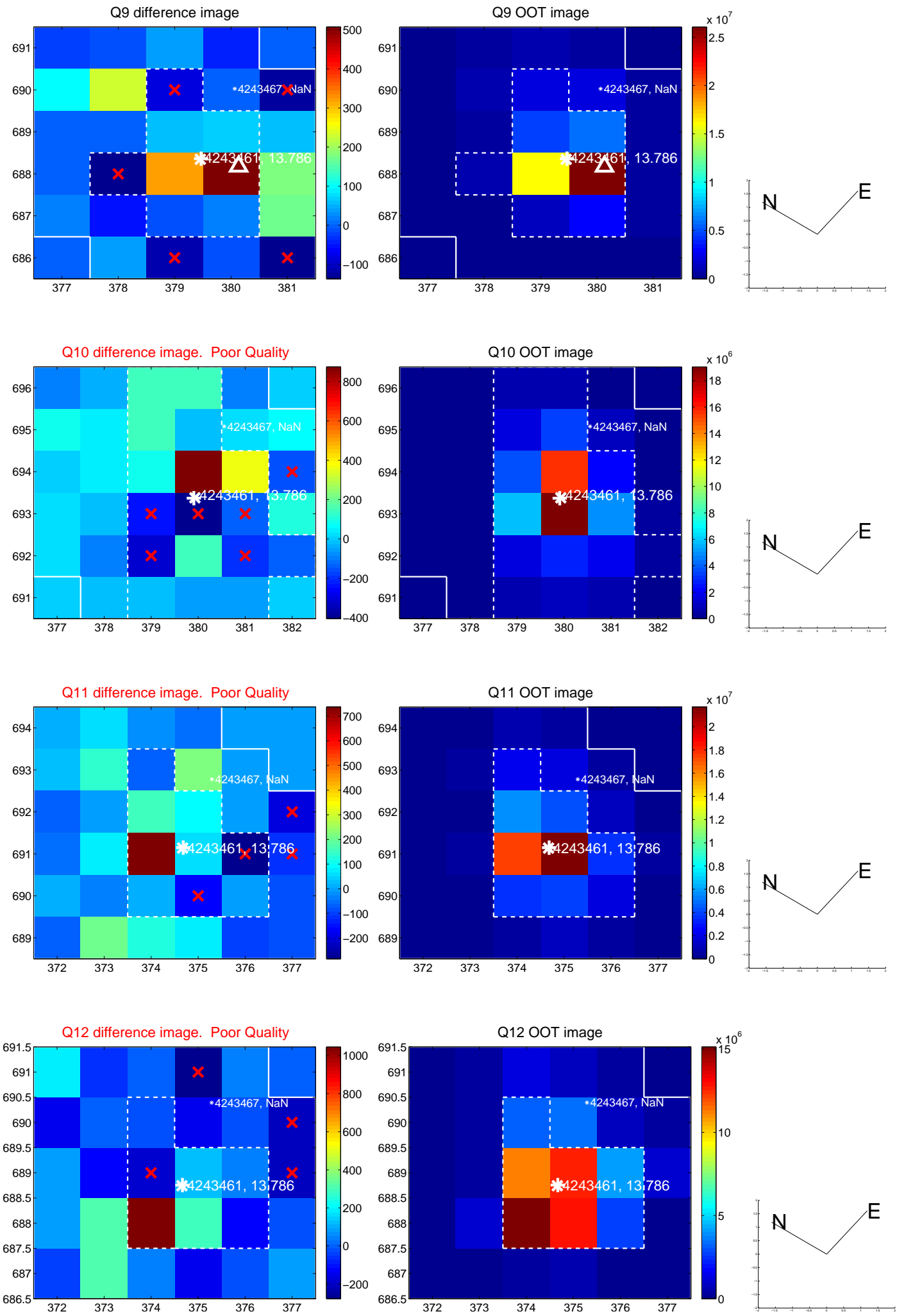


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

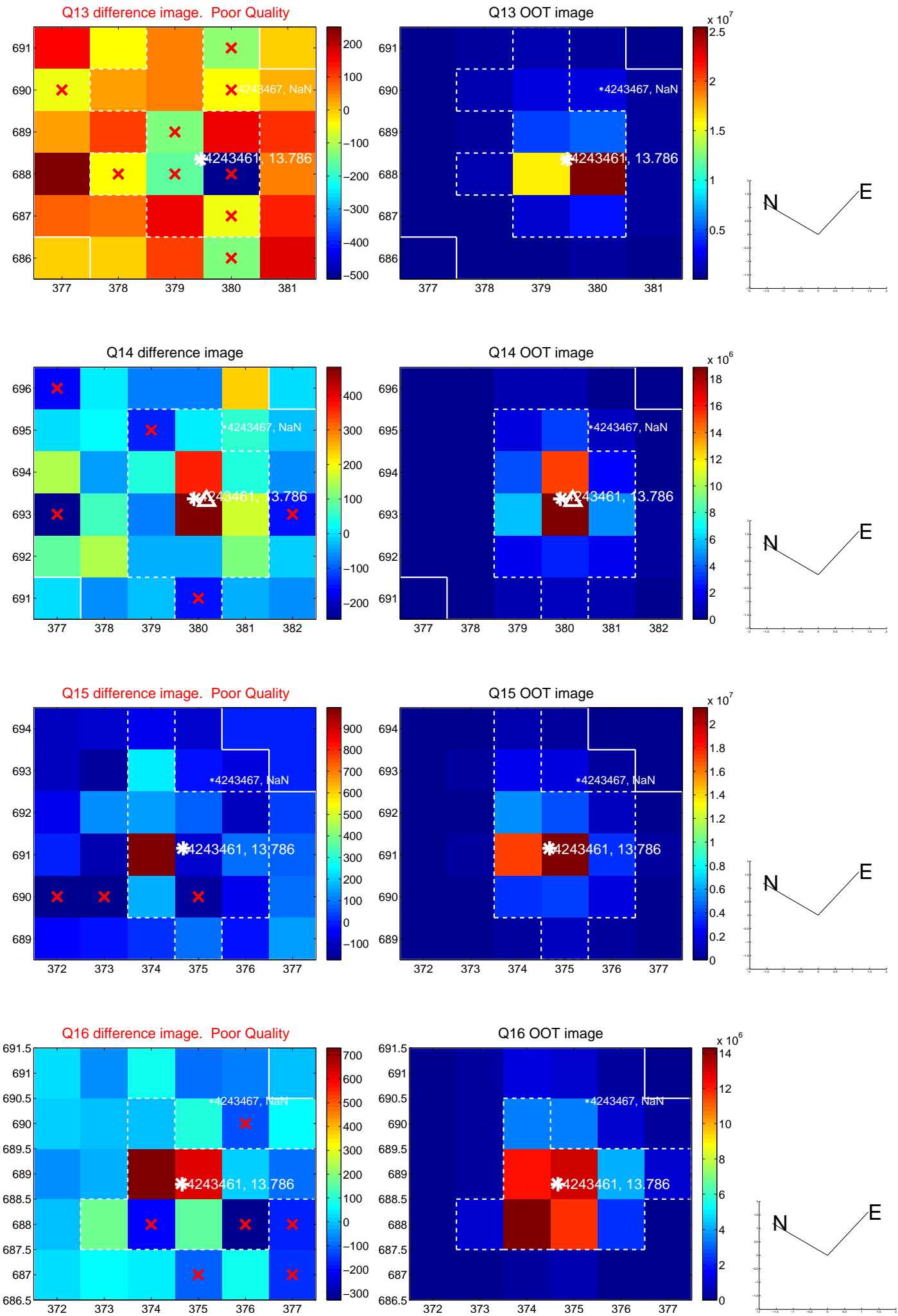




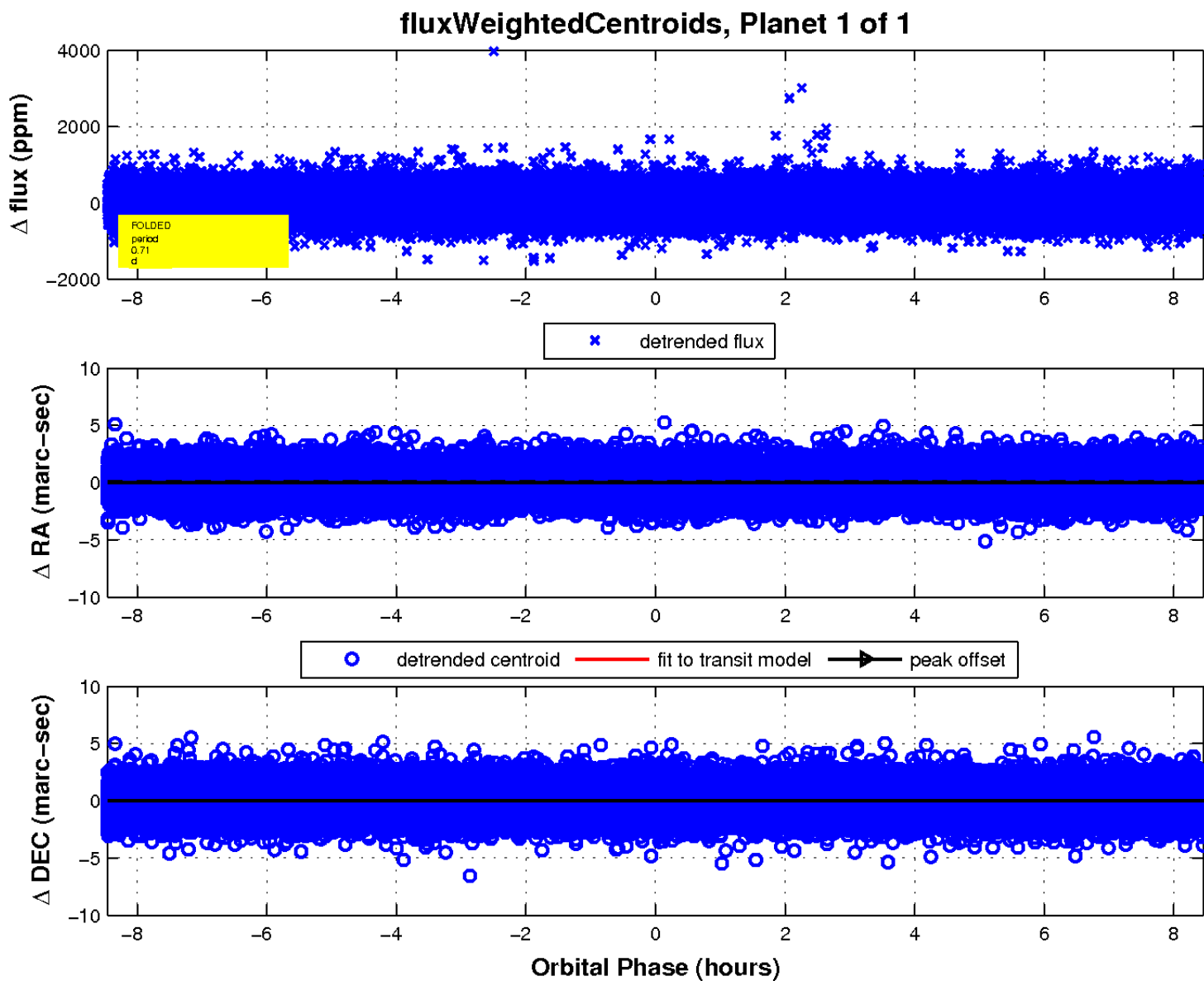
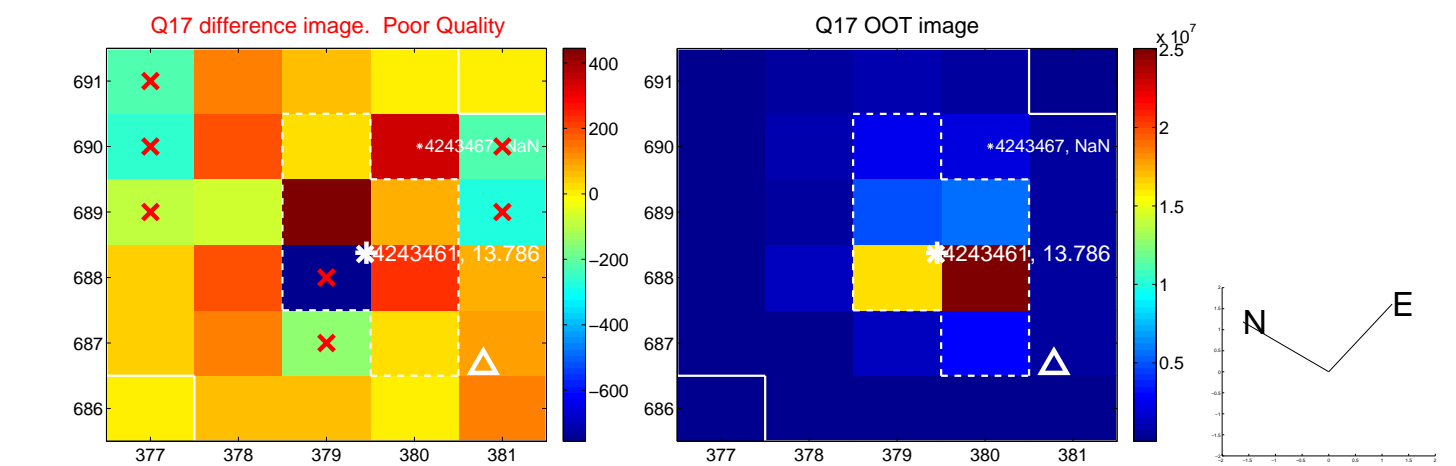
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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UKIRT Image

Declination

