

# KIC 007032946

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007032946-01	OBS	No	0.566820	131.847763	54.1	1.588	7.9	8.7	0.55	3932	0.49	521.86

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007032946-01	OBS	FP	0.00	1	0	0	1	LPP_DV—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS—EPHEM_MATCH

**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.

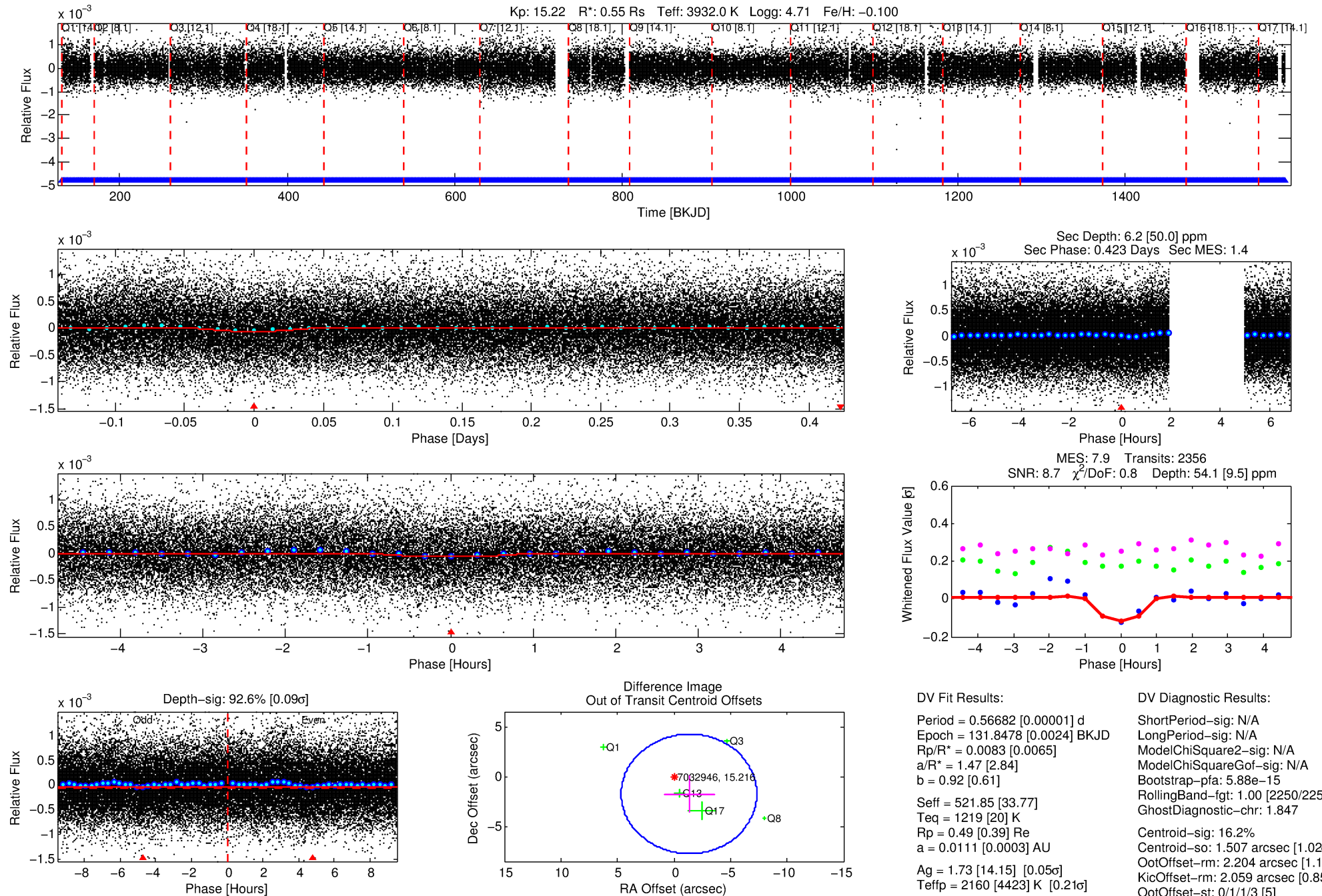
## Ephemeris Match Information For 007032946-01

TCE (1)	KIC	Parent (2)	Parent KIC	P <sub>1</sub> :P <sub>2</sub>	Dist ( $''$ )	$\Delta$ Row	$\Delta$ Col	m <sub>2</sub>	m <sub>1</sub>	D <sub>2</sub> /D <sub>1</sub>	Mechanism	Flag	$\sigma_P$	$\sigma_T$
007032946-01	7032946	RR-Lyr-pri	7198959	1:1	997.1	251	6	7.86	15.21	11543.00	Direct-PRF	0	1.52	23.33

**Notes:** P<sub>1</sub>:P<sub>2</sub> is the period ratio. Dist is the distance in arcseconds.  $\Delta$ Row and  $\Delta$ Col are the number of pixels apart in row and column. m<sub>2</sub> and m<sub>1</sub> are the magnitudes of the parent and child. D<sub>2</sub>/D<sub>1</sub> is the parent's transit depth divided by the child's.  $\sigma_P$  and  $\sigma_T$  are the significance of the match in period and epoch. For a match to be considered significant  $\sigma_P < 5.0$  and  $\sigma_T < 5.0$ . Matches which have  $\sigma_P$  and  $\sigma_T$  very close to this cutoff should receive extra scrutiny, especially if the period ratio is very large.

# DV One-Page Summary

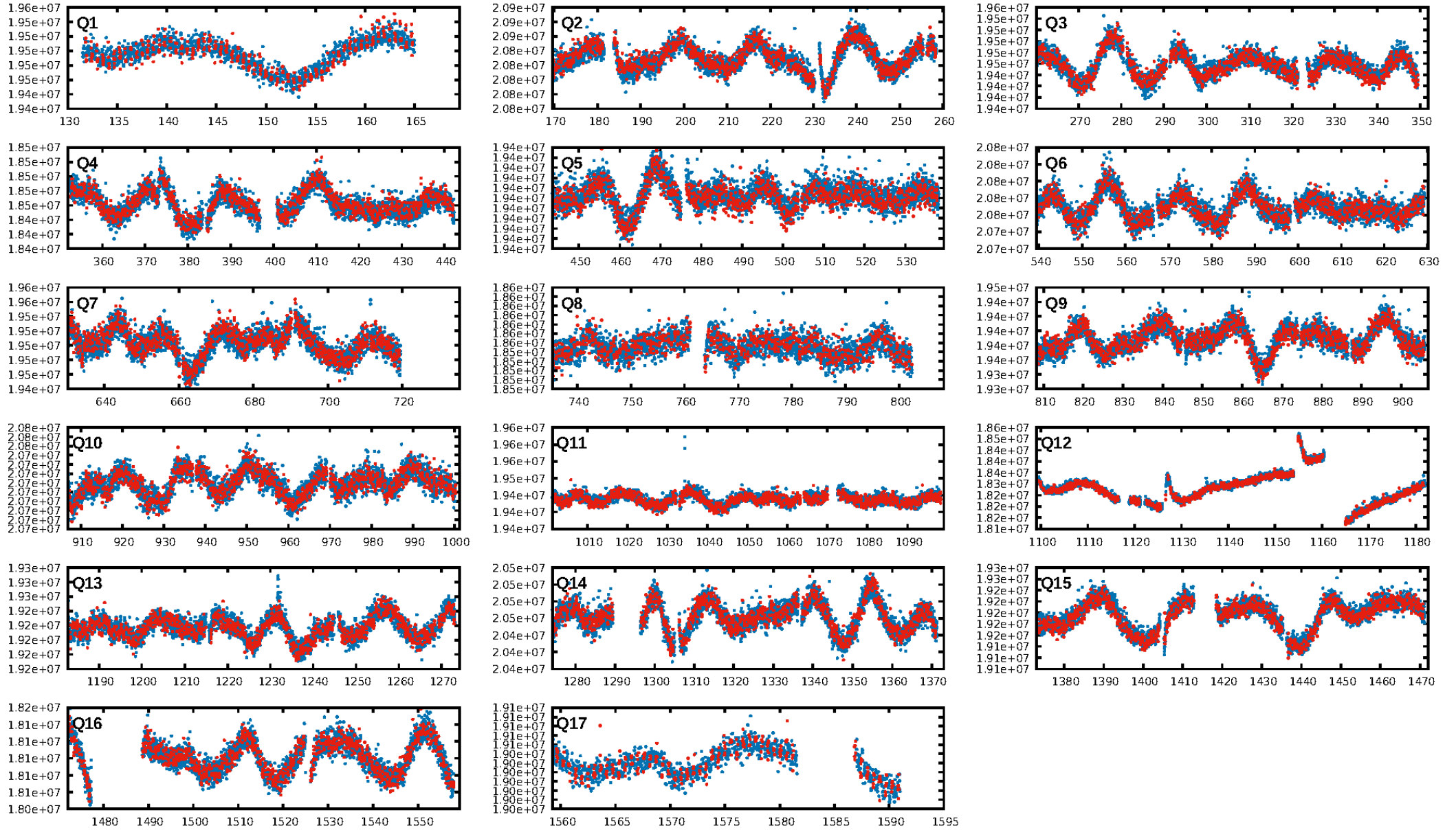
KIC: 7032946 Candidate: 1 of 1 Period: 0.567 d



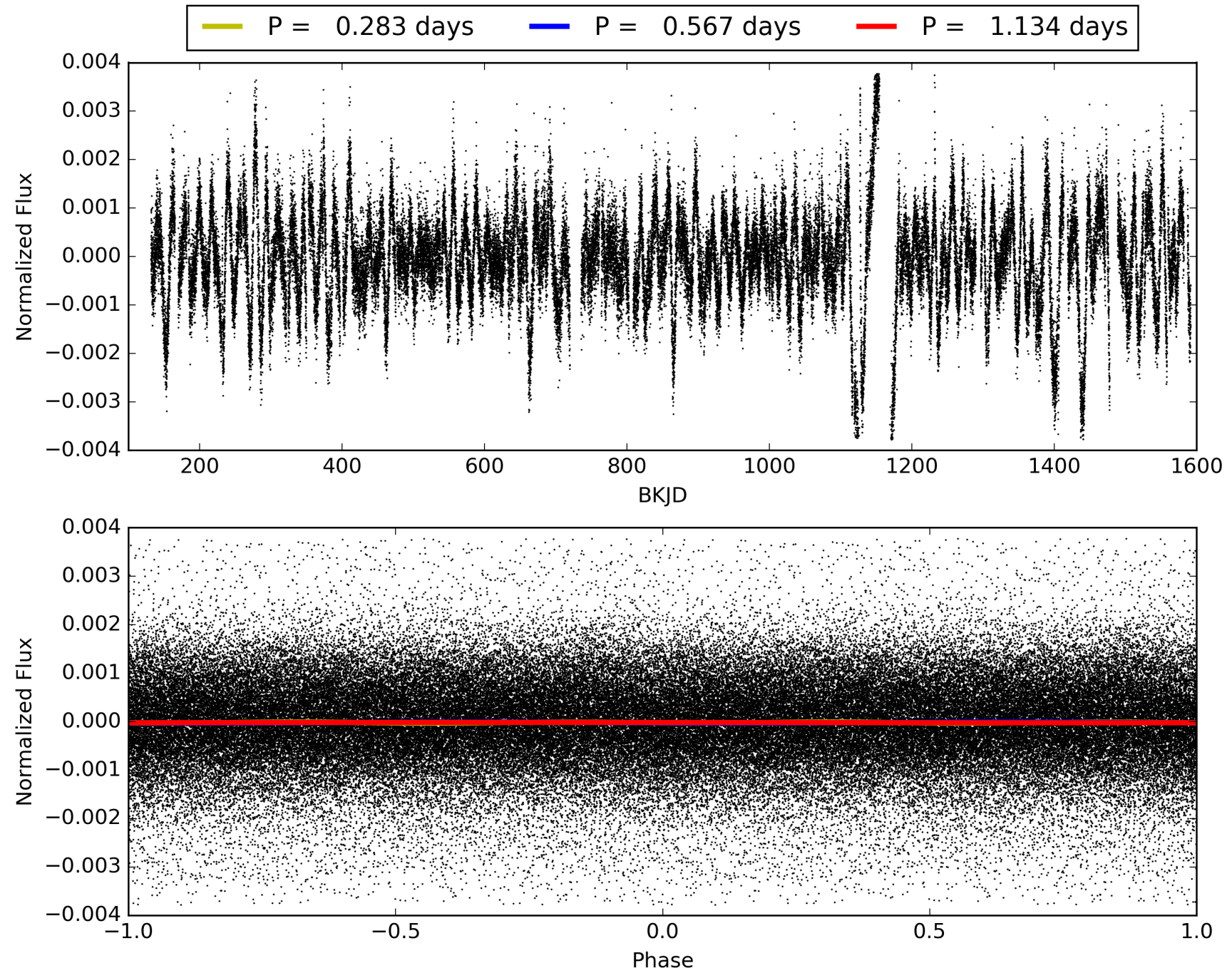
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 11:41:34 Z

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

# TCE 007032946-01, PDC Light Curves



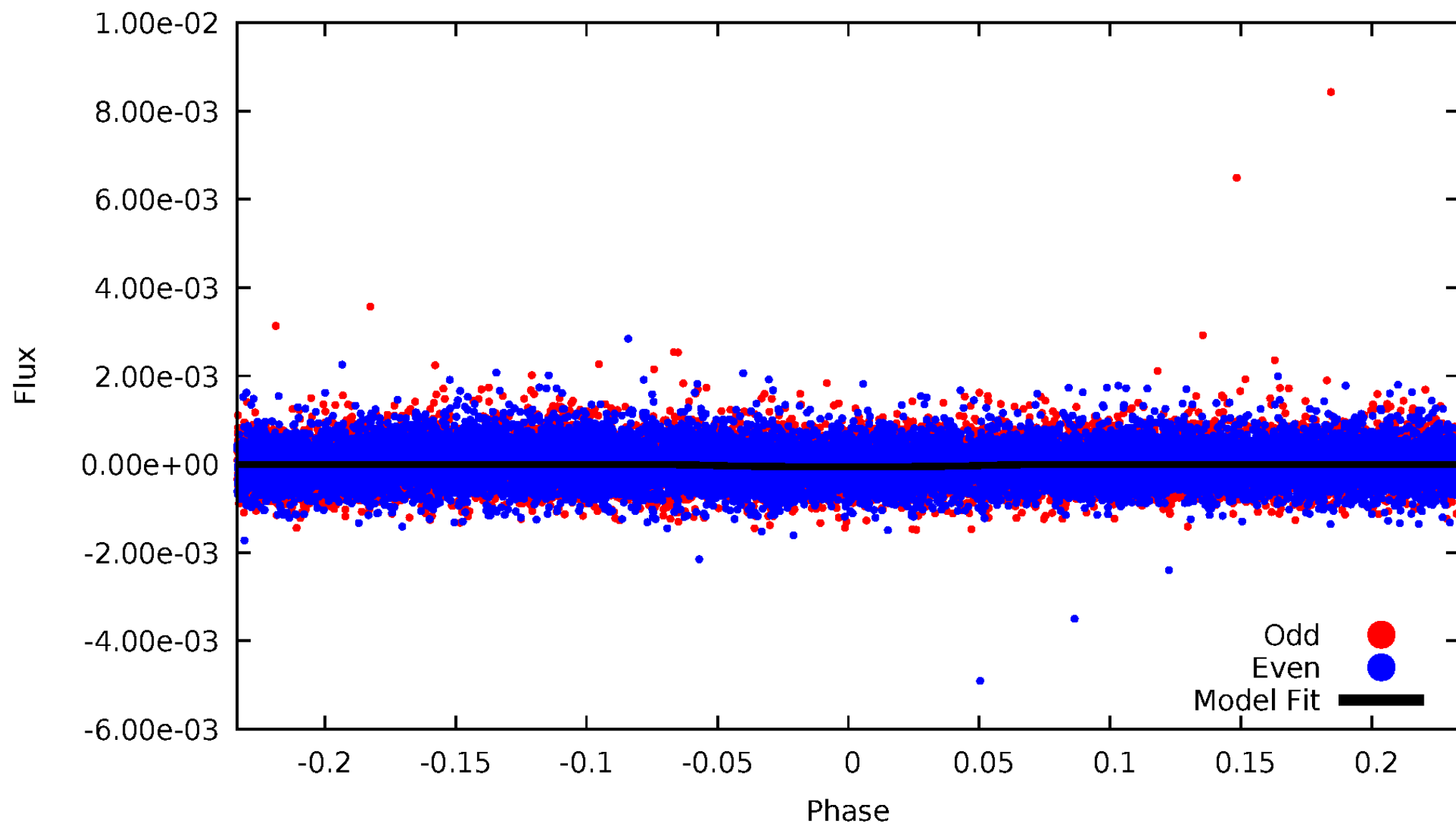
TCE 007032946-01





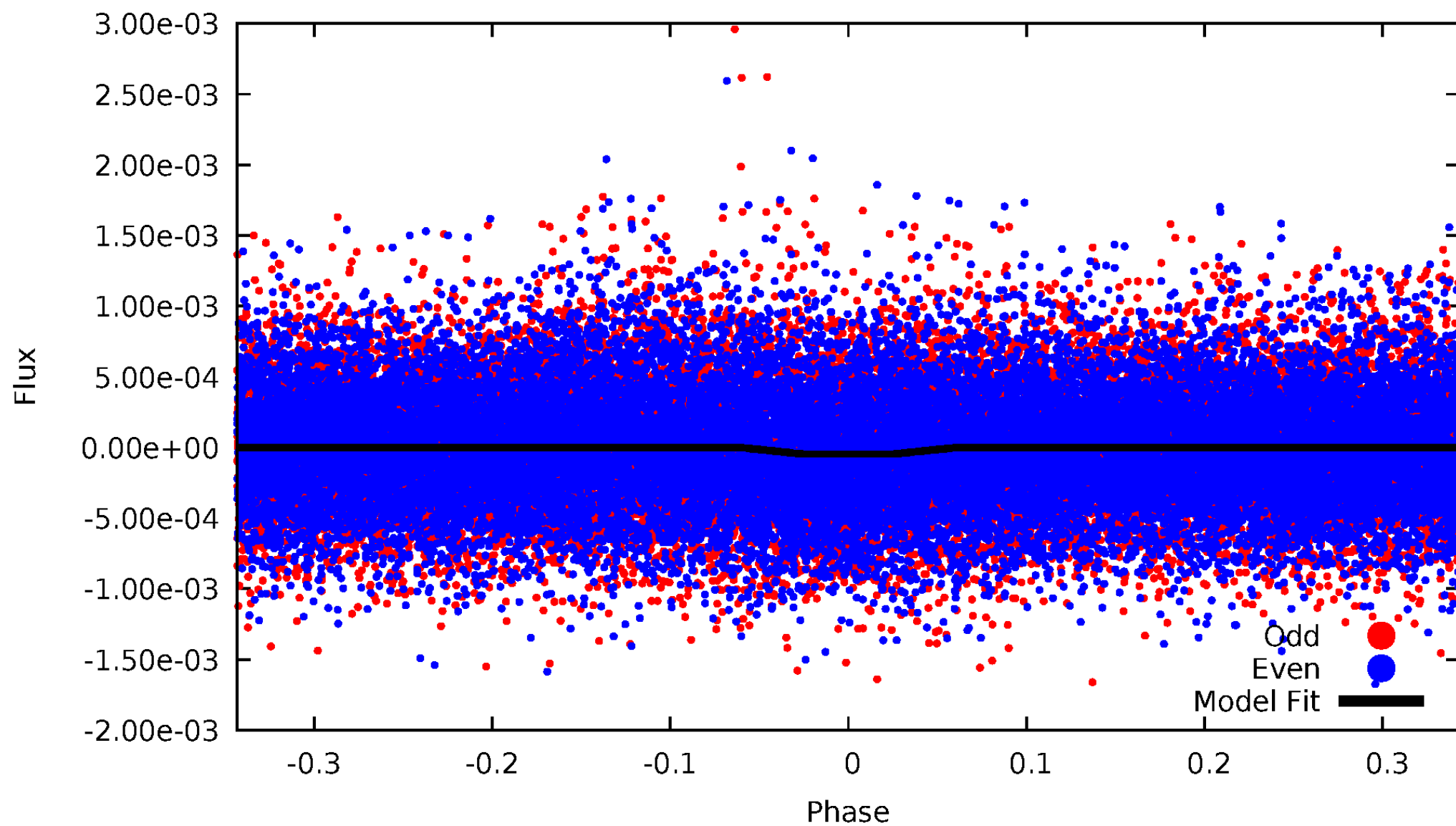
# DV Odd/Even

TCE 007032946-01



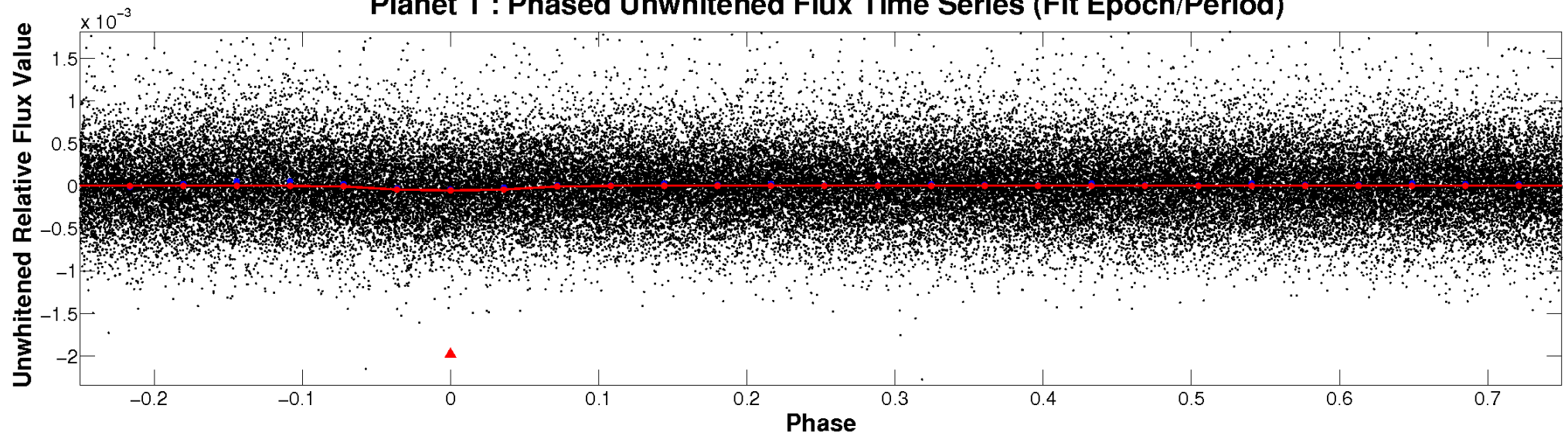
# ALT Odd/Even

TCE 007032946-01

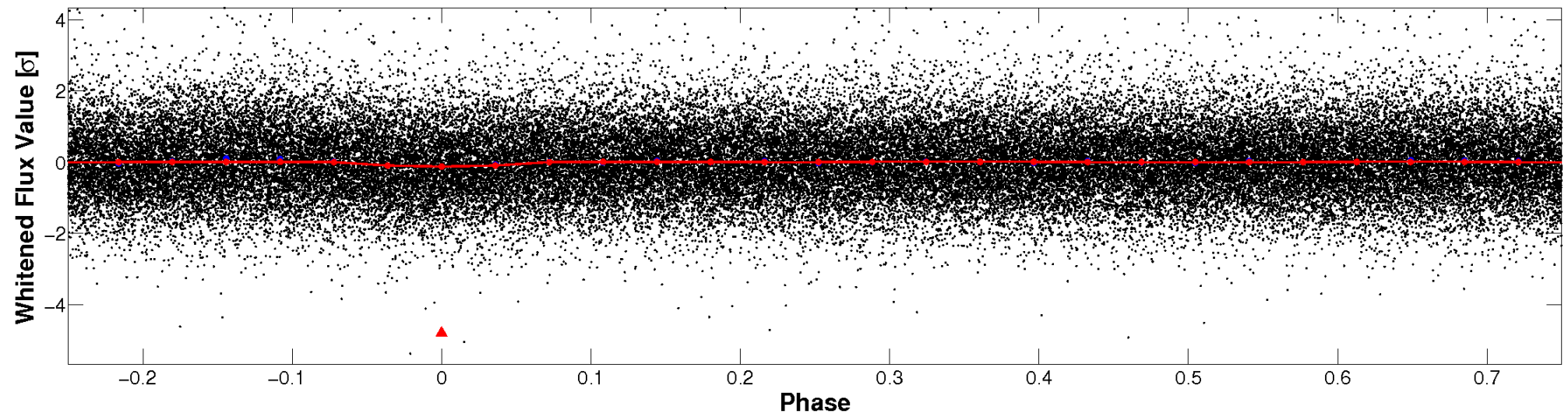


# Non-Whitened Vs. Whitened Light Curve

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

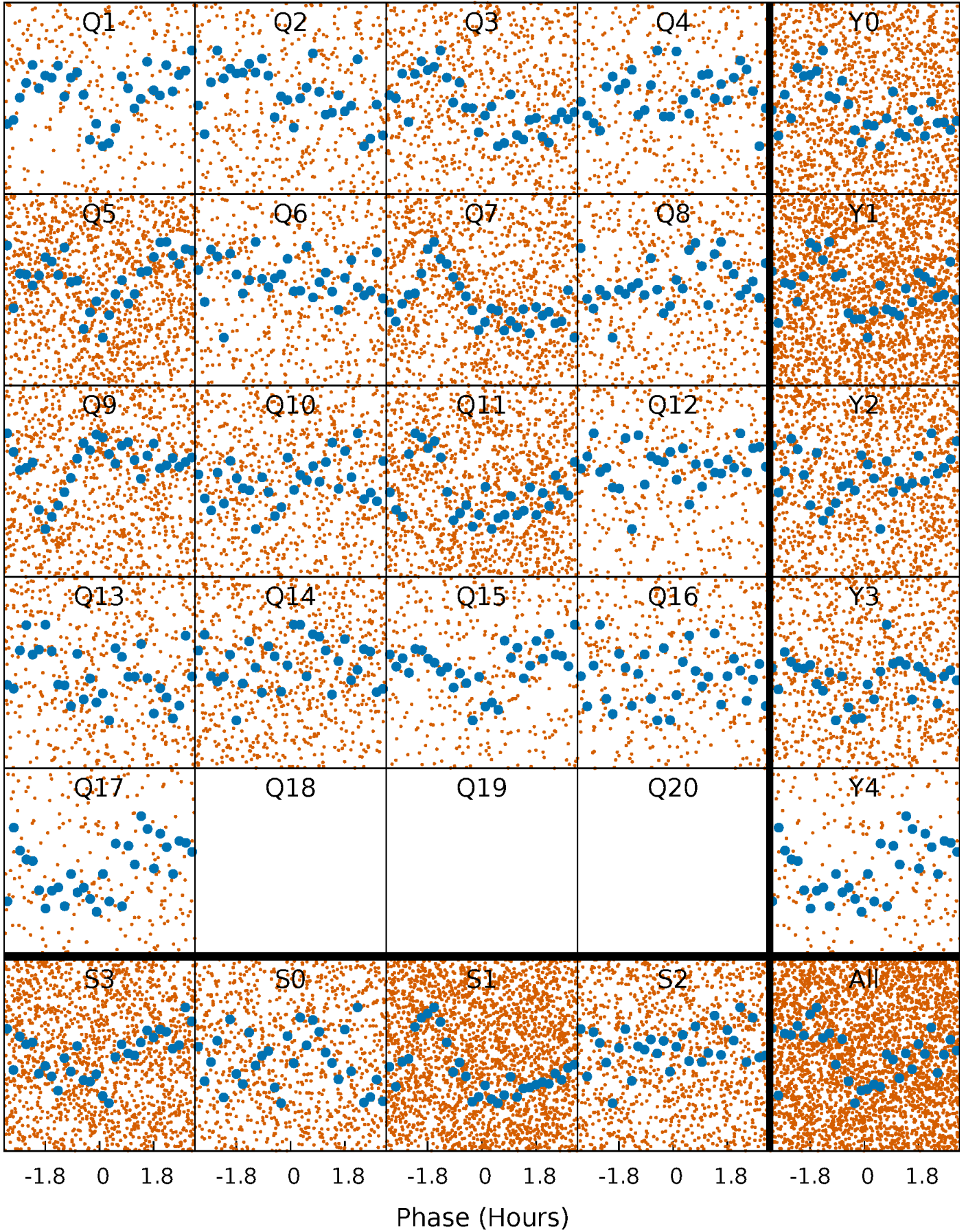


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

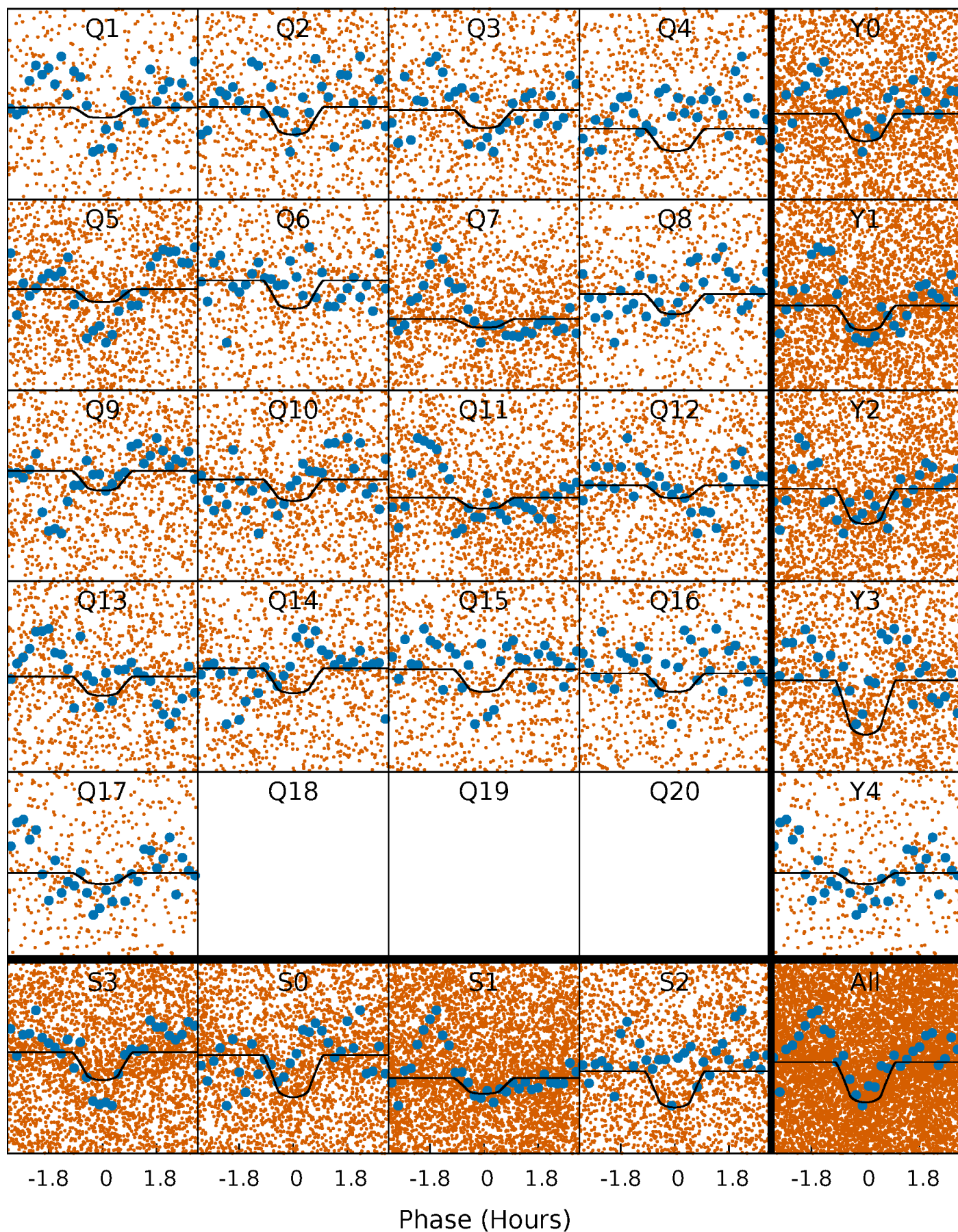
TCE 007032946-01 P= 0.566820 Days  $T_0=131.847763$  (BKJD)





# DV Quarter-Phased Transit Curves

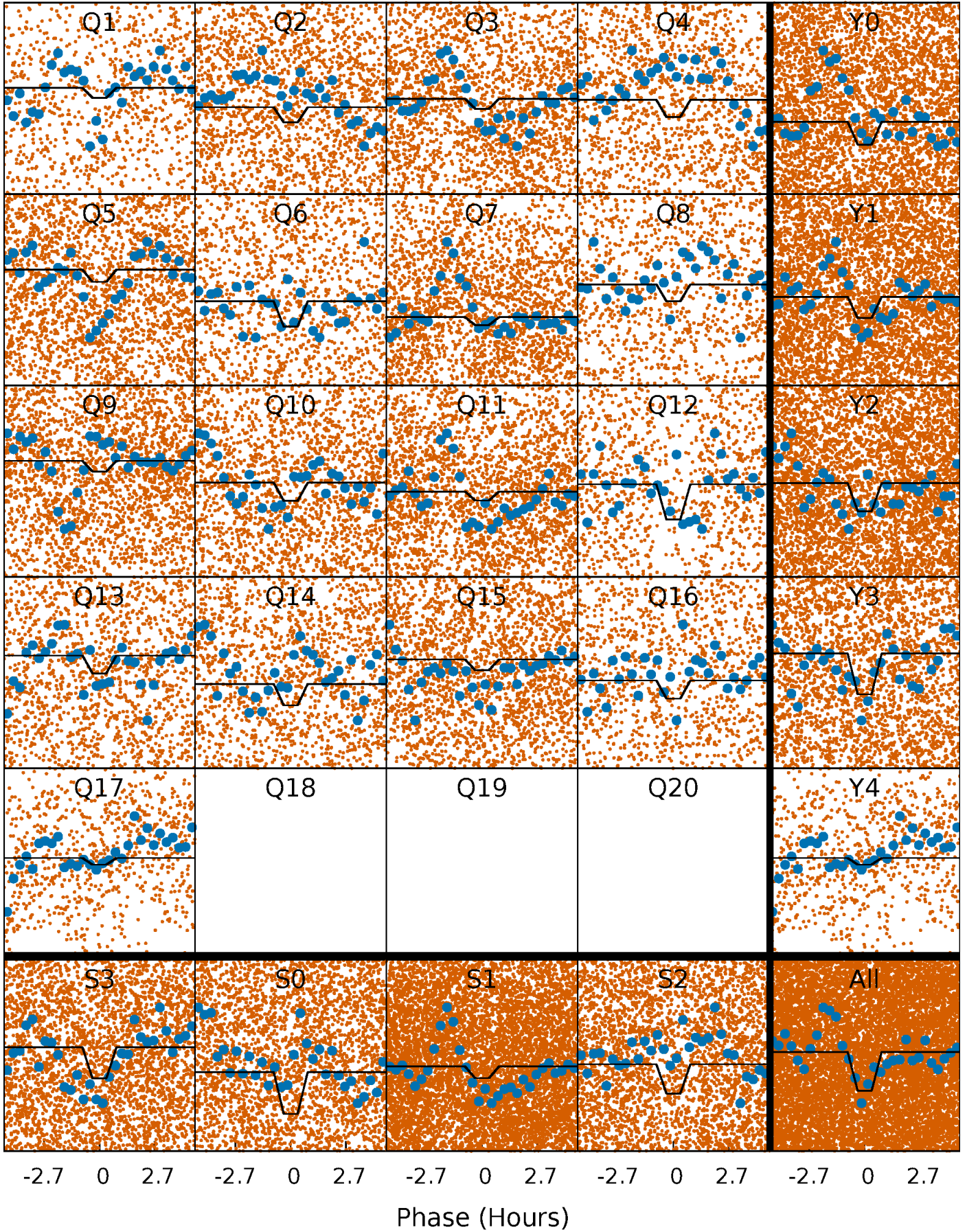
TCE 007032946-01   P= 0.566820 Days    $T_0=131.847763$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

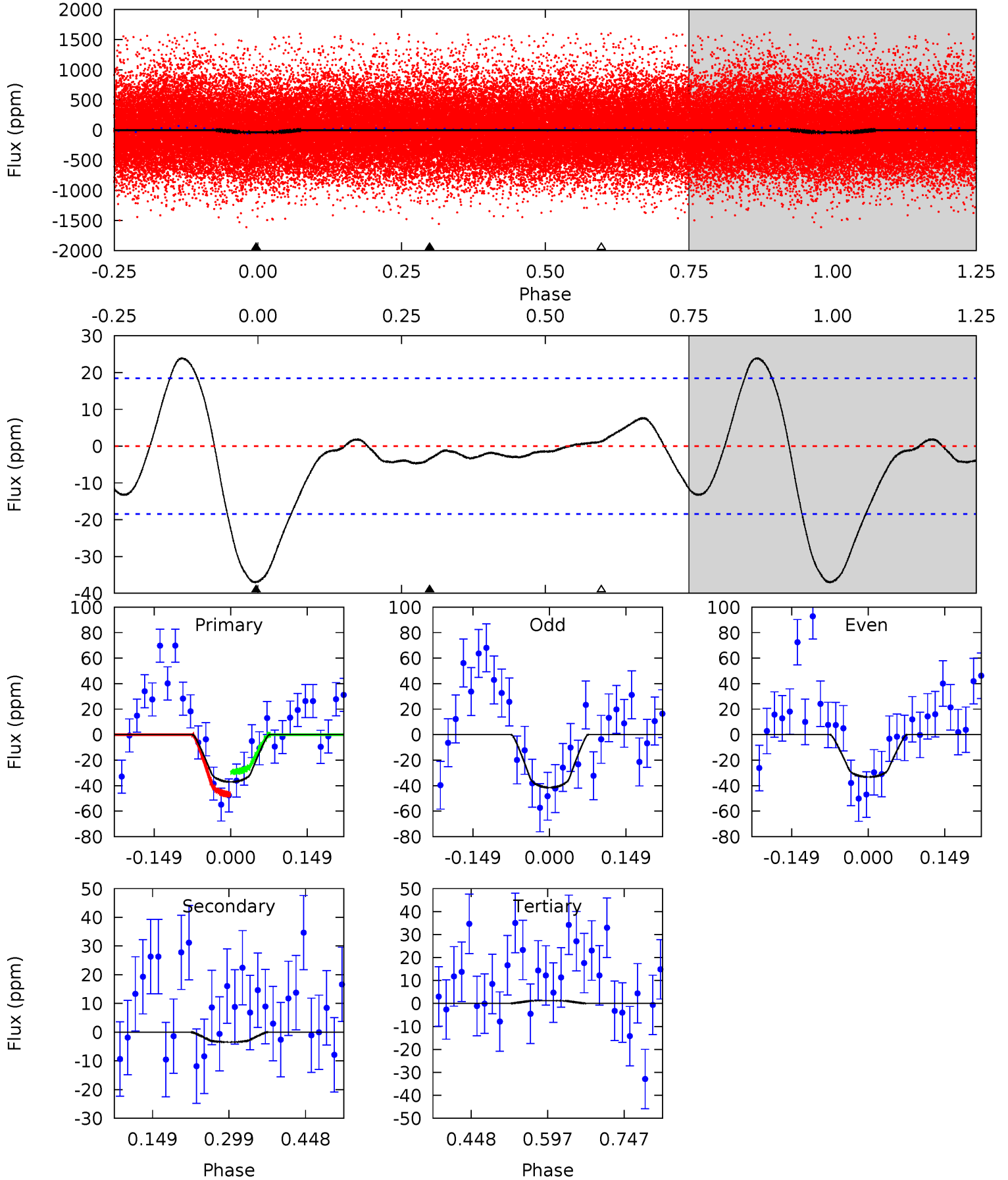
TCE 007032946-01 P= 0.566813 Days  $T_0=131.855153$  (BKJD)



# DV Model-Shift Uniqueness Test

007032946-01, P = 0.566820 Days, E = 131.280943 Days

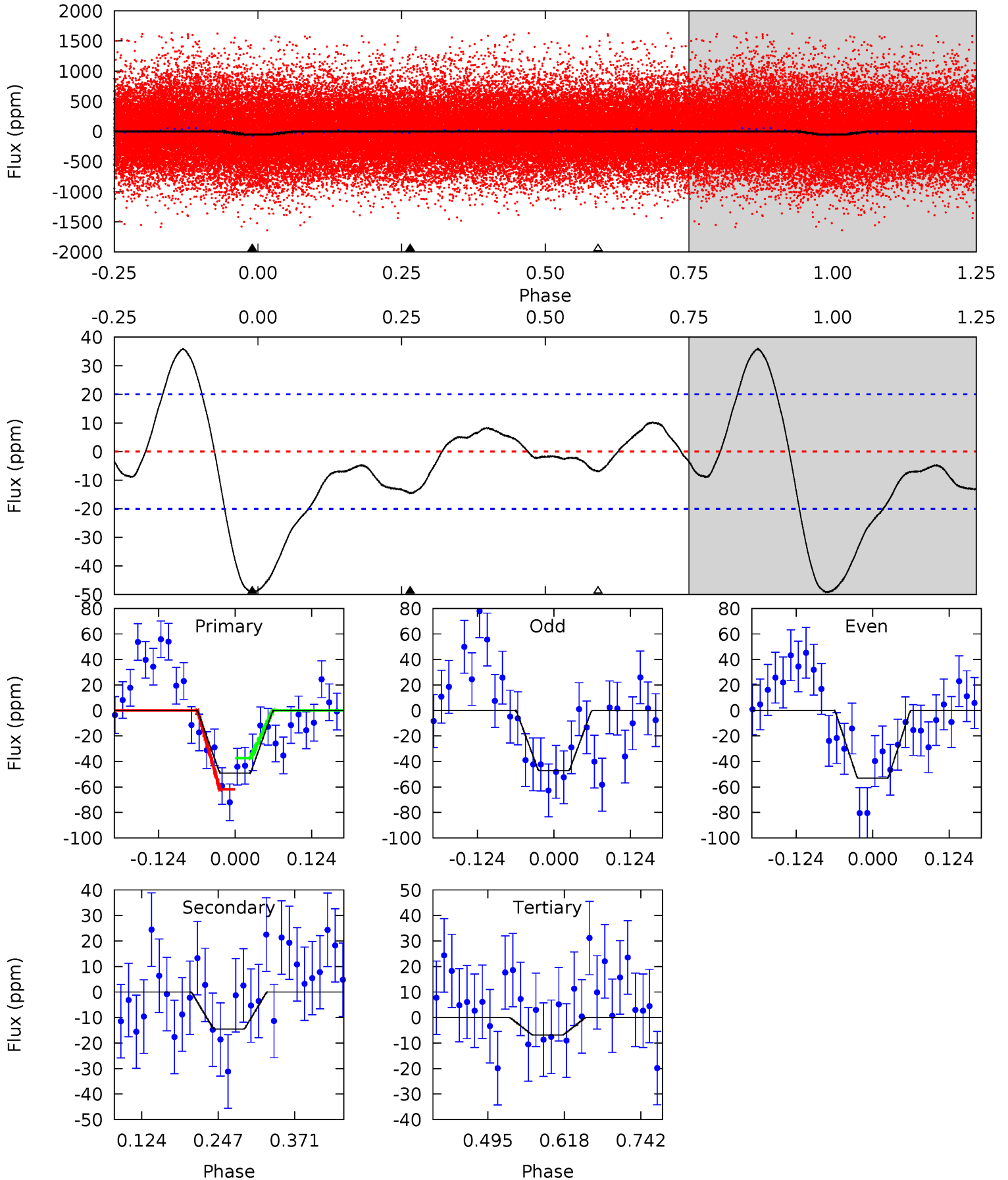
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.99	0.84	-0.30	0	4.48	1.44	1.55	9.29	8.99	1.14	0.84	1.01	0.76	0.39	2.14



# Alt Model-Shift Uniqueness Test

007032946-01, P = 0.566813 Days, E = 131.288340 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
11.1	3.28	1.55	0	4.52	1.54	2.09	9.53	11.1	1.73	3.28	0.65	0.78	0.42	2.75





### Stellar Parameters For KIC 007032946

	$T_{\text{eff}}(K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$3932^{+46}_{-50}$	$4.713^{+0.020}_{-0.020}$	$-0.100^{+0.100}_{-0.100}$	$0.546^{+0.021}_{-0.021}$	$0.562^{+0.020}_{-0.022}$	$4.863^{+0.422}_{-0.388}$
	+1%/-1%	+0%/-0%	+100%/-100%	+4%/-4%	+4%/-4%	+9%/-8%
Source	PHO2	PHO2	PHO2	DSEP		

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

### Secondary Eclipse Parameters for KIC 007032946-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-3 \pm 4$	$0.54^{+0.36}_{-0.31}$	$1703^{+24}_{-25}$	$2222^{+887}_{-4557}$	$0.617^{+4.011}_{-0.791}$
Alt.	$-15 \pm 4$	$0.48^{+0.37}_{-0.29}$	$1705^{+26}_{-25}$	$3063^{+1218}_{-515}$	$4.162^{+26.904}_{-2.868}$

$T_{\text{max}}$  = 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

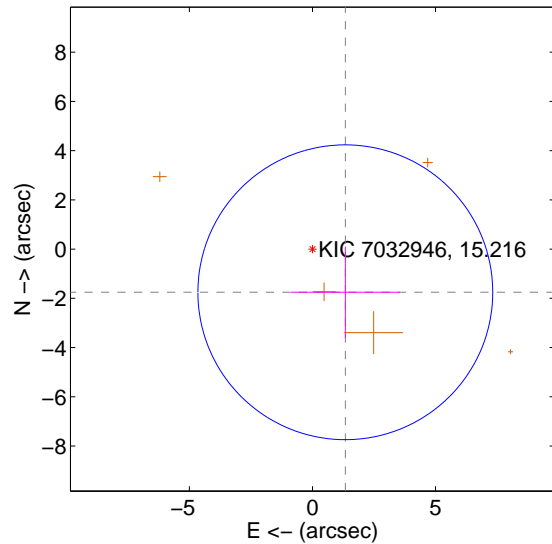
Supplemental centroid analysis for 007032946-01. Kepler magnitude: 15.22. Transit SNR 8.70

There are 0 quarters with good PRF difference image offsets

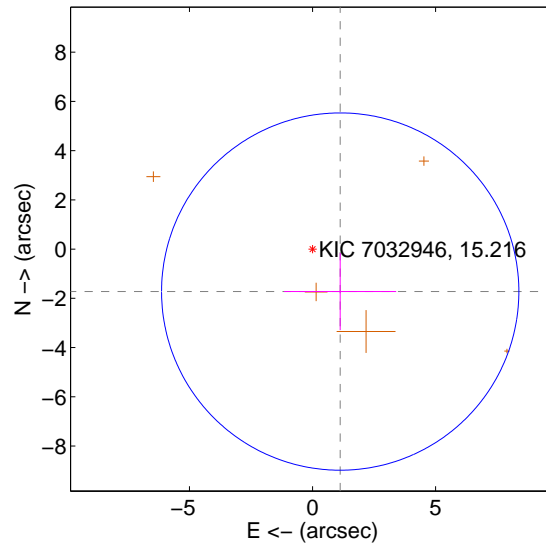
The direct PRF centroid is offset from the target star catalog position by about 0.32 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.204 \pm 1.995$	1.10	$-1.335 \pm 2.213$	$-1.753 \pm 1.858$
PRF-fit source offset from KIC position	$2.059 \pm 2.418$	0.85	$-1.124 \pm 2.274$	$-1.725 \pm 1.565$
photometric centroid source offset	$1.51 \pm 1.48$	1.02	$-0.30 \pm 1.69$	$-1.48 \pm 1.47$

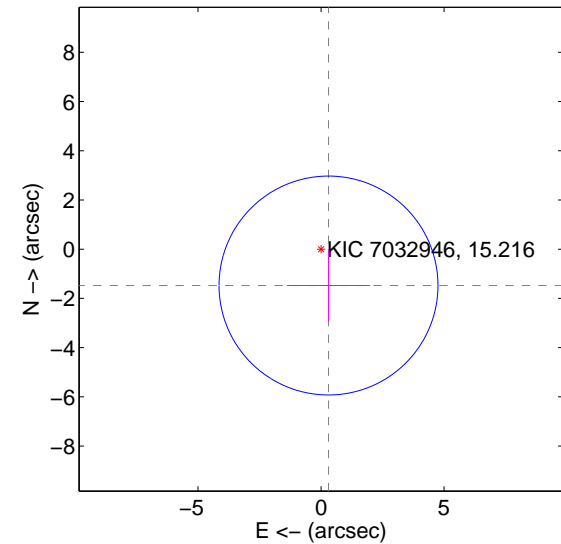
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

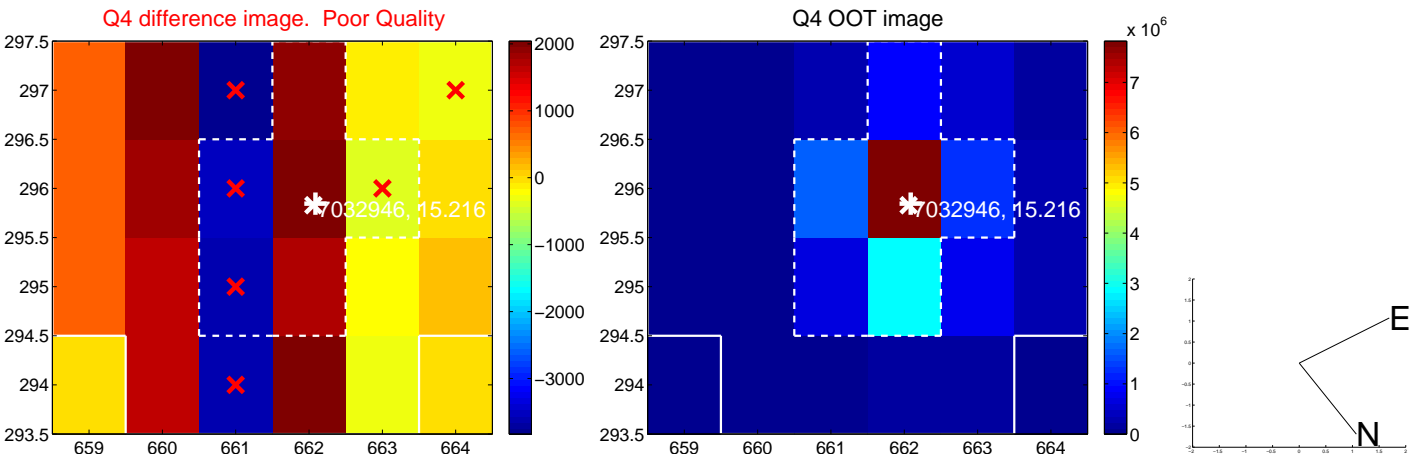
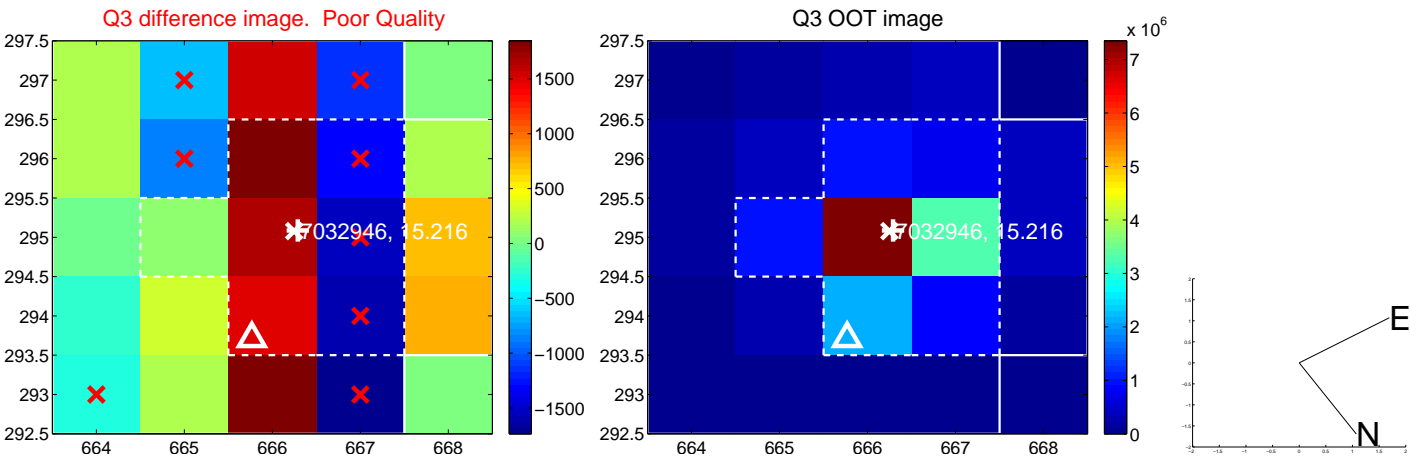
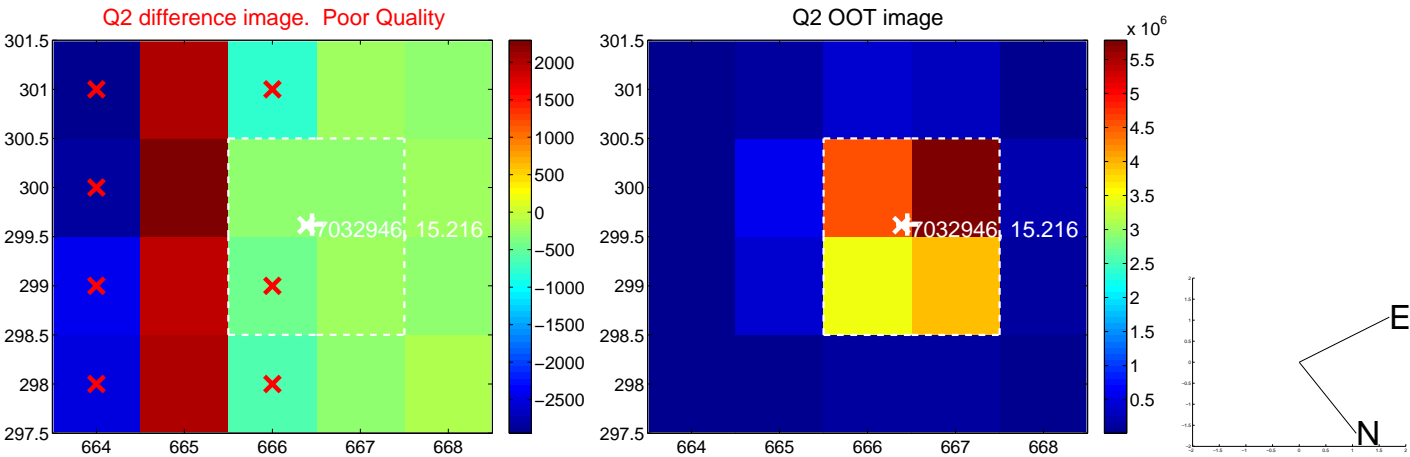
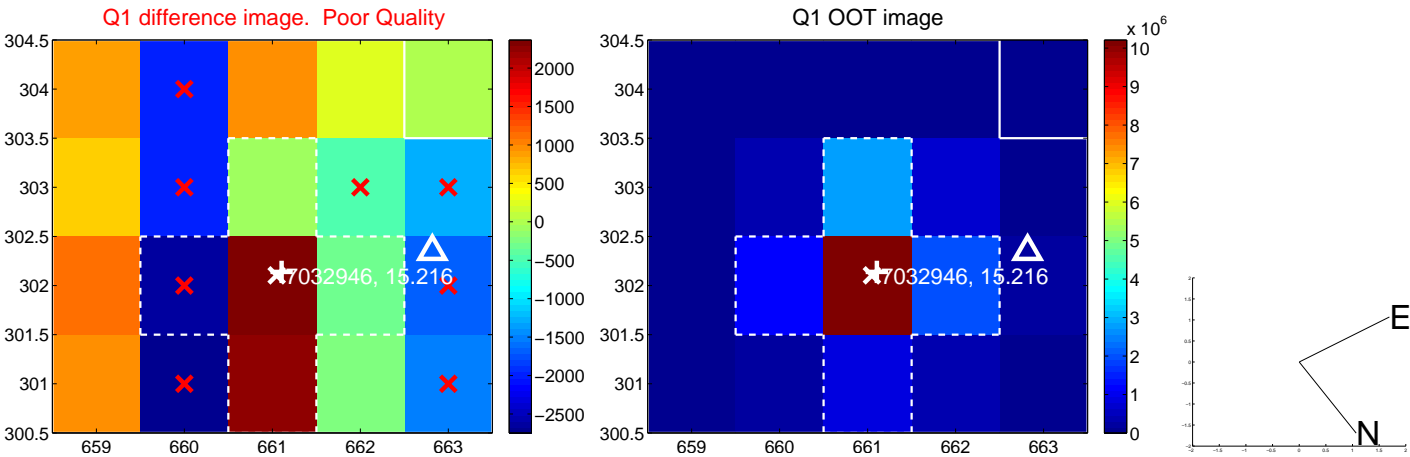


offset from photometric centroids

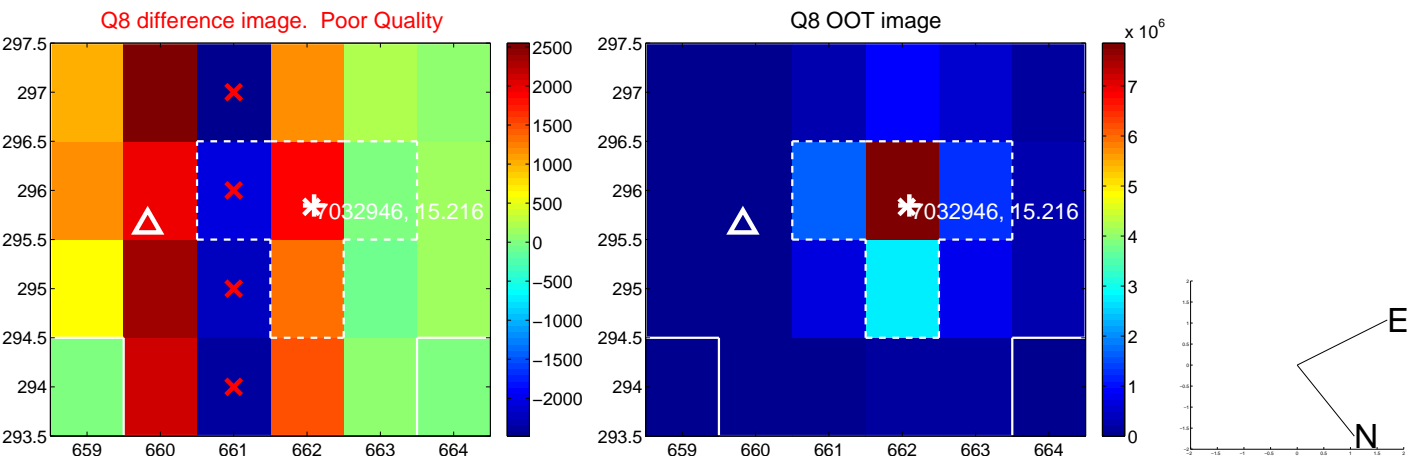
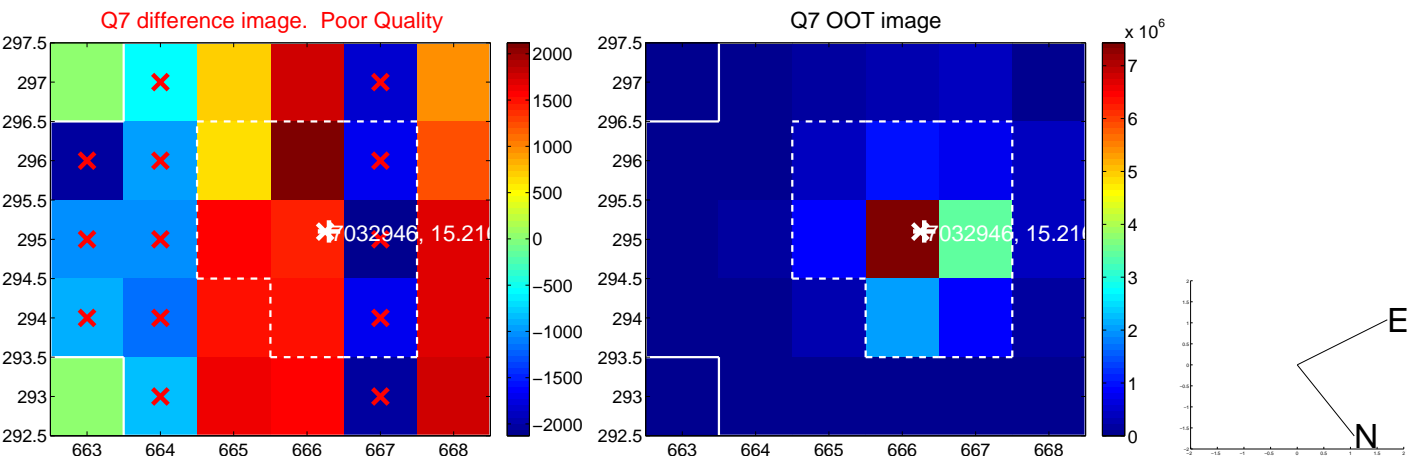
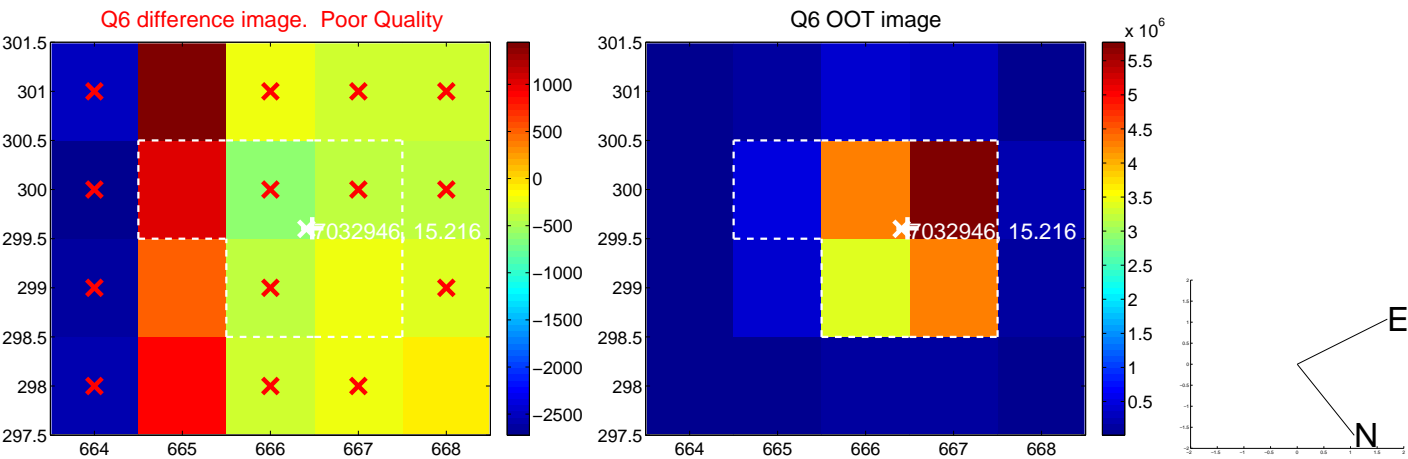
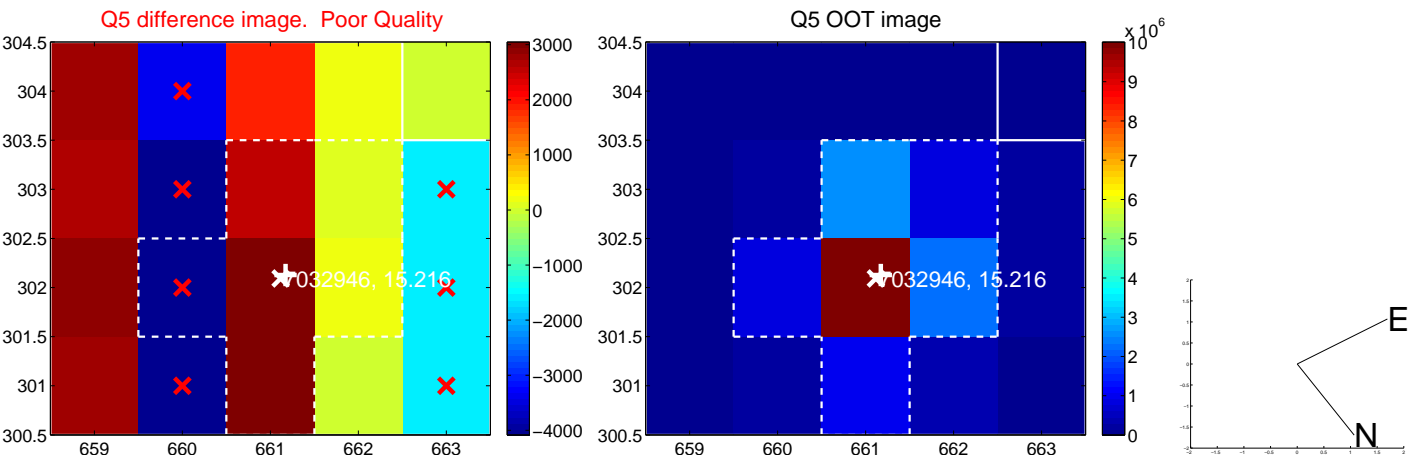


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

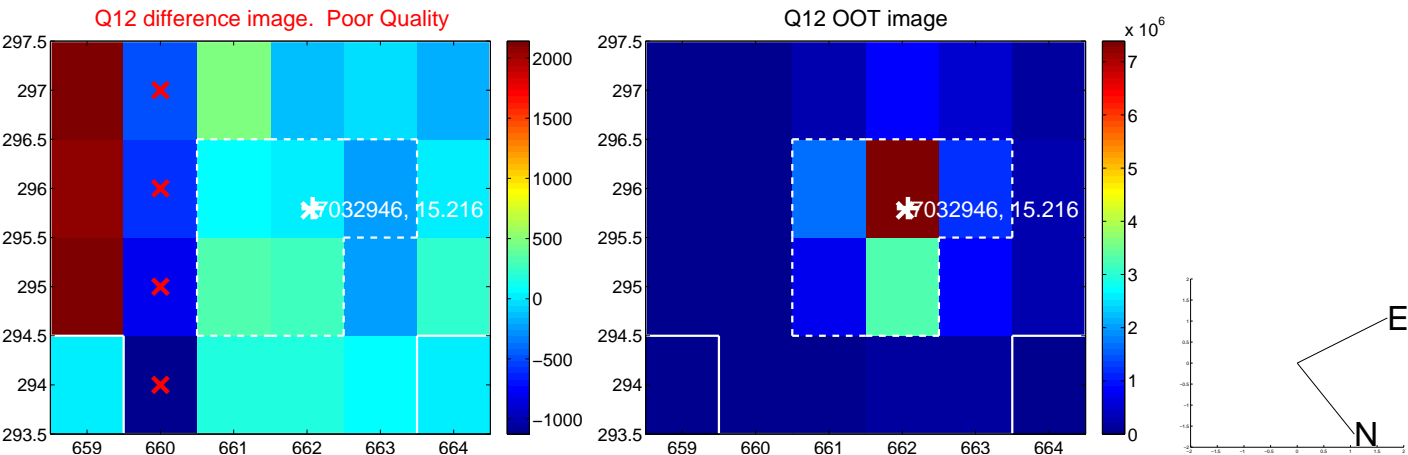
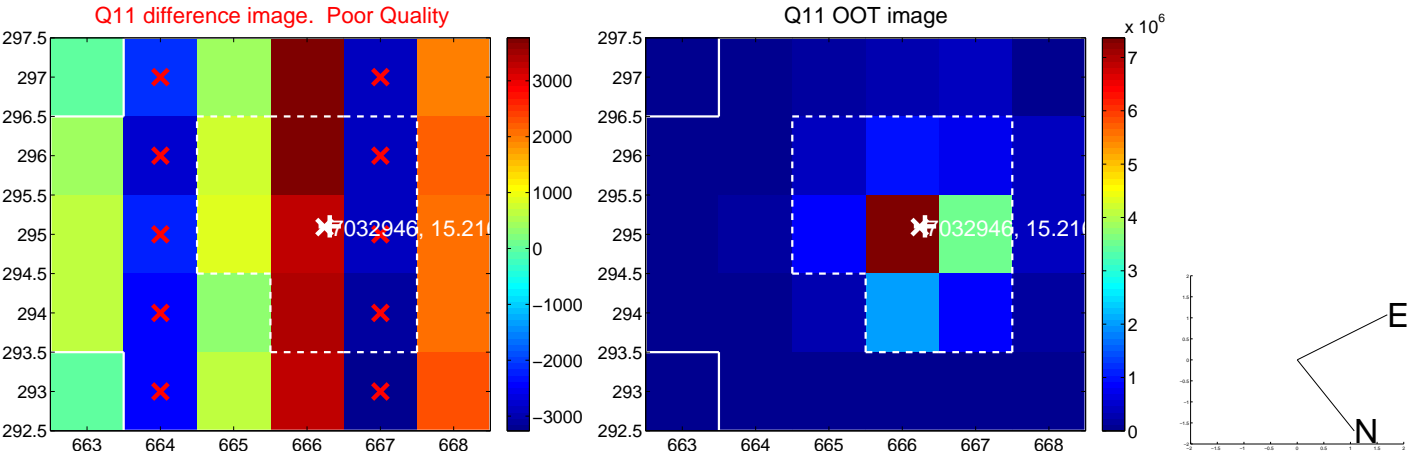
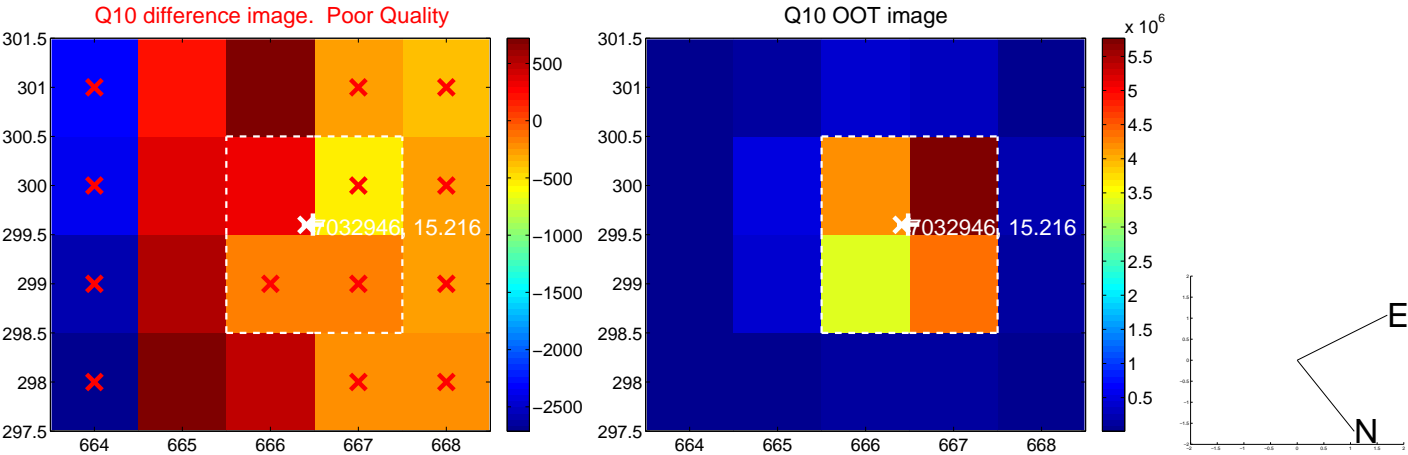
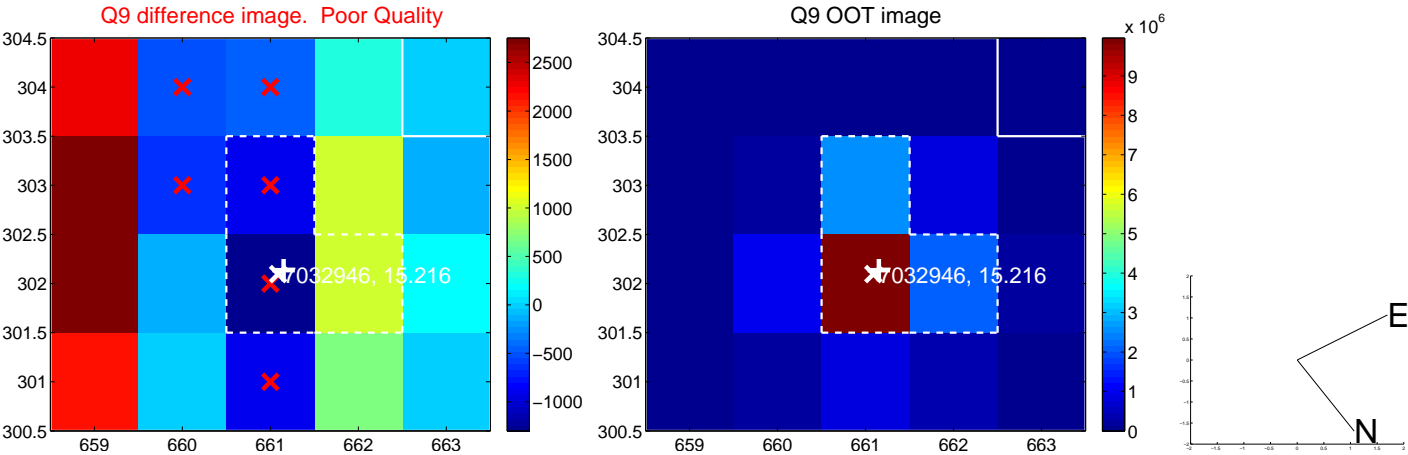


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

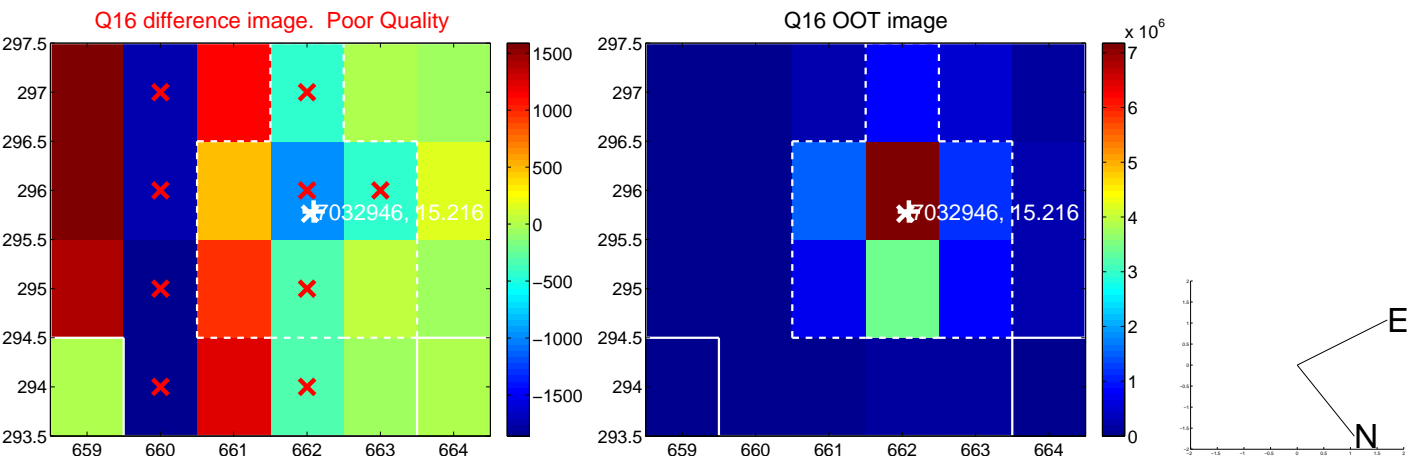
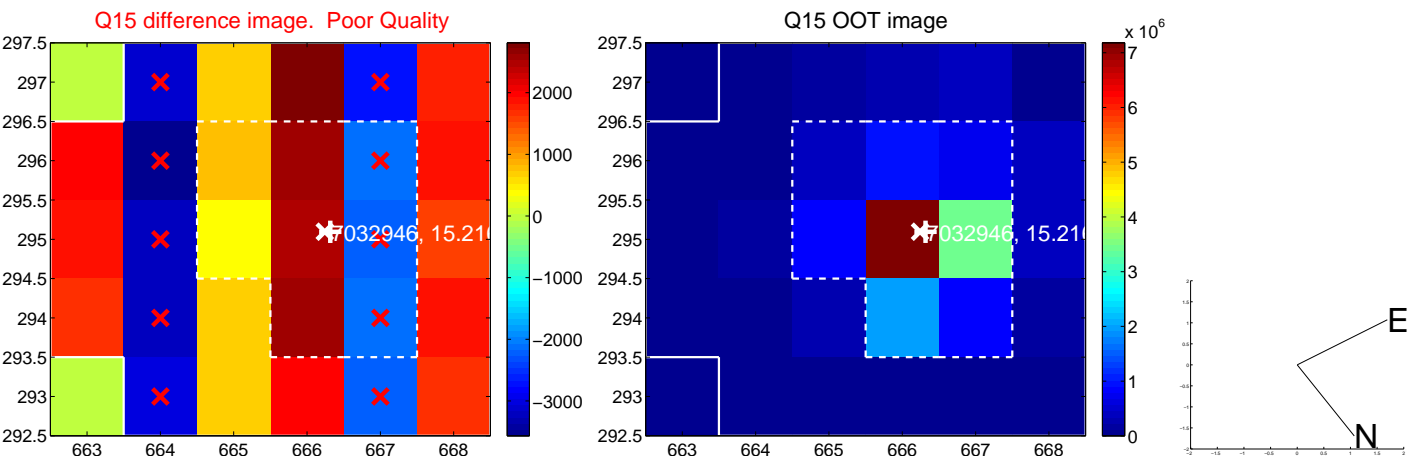
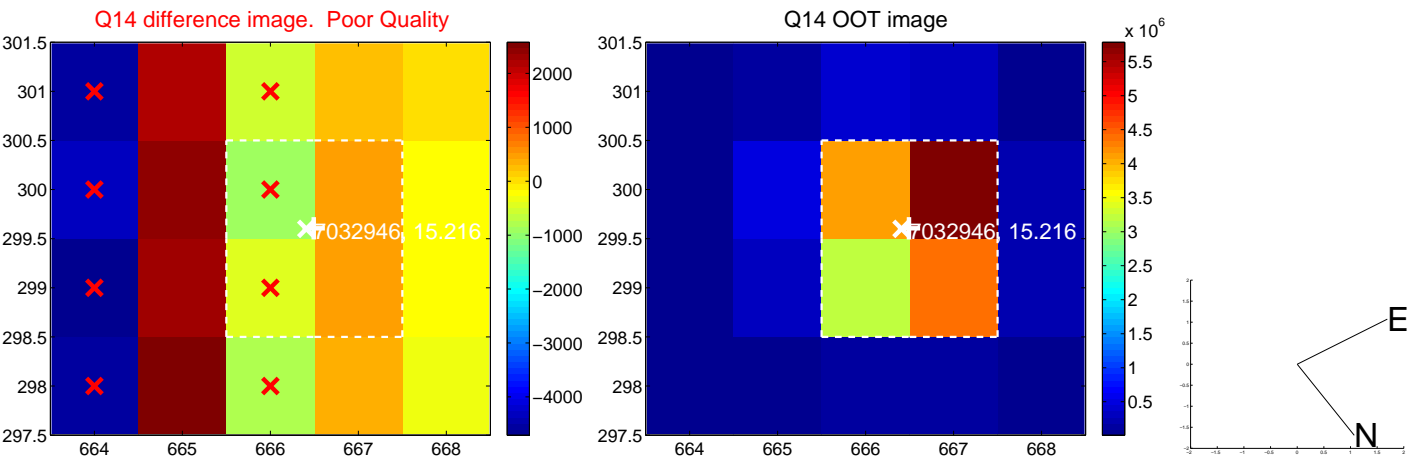
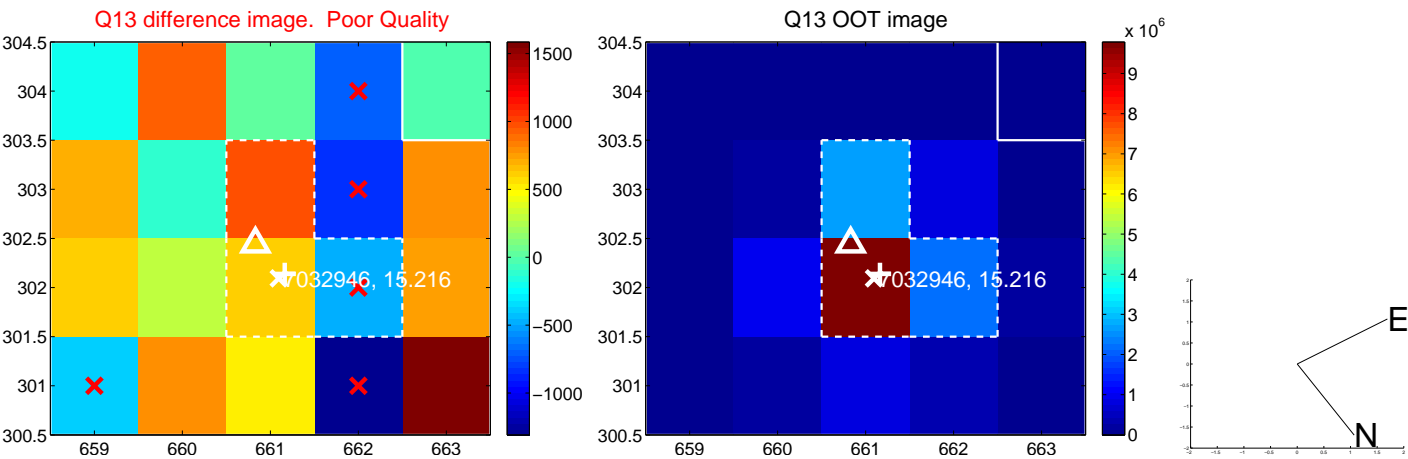




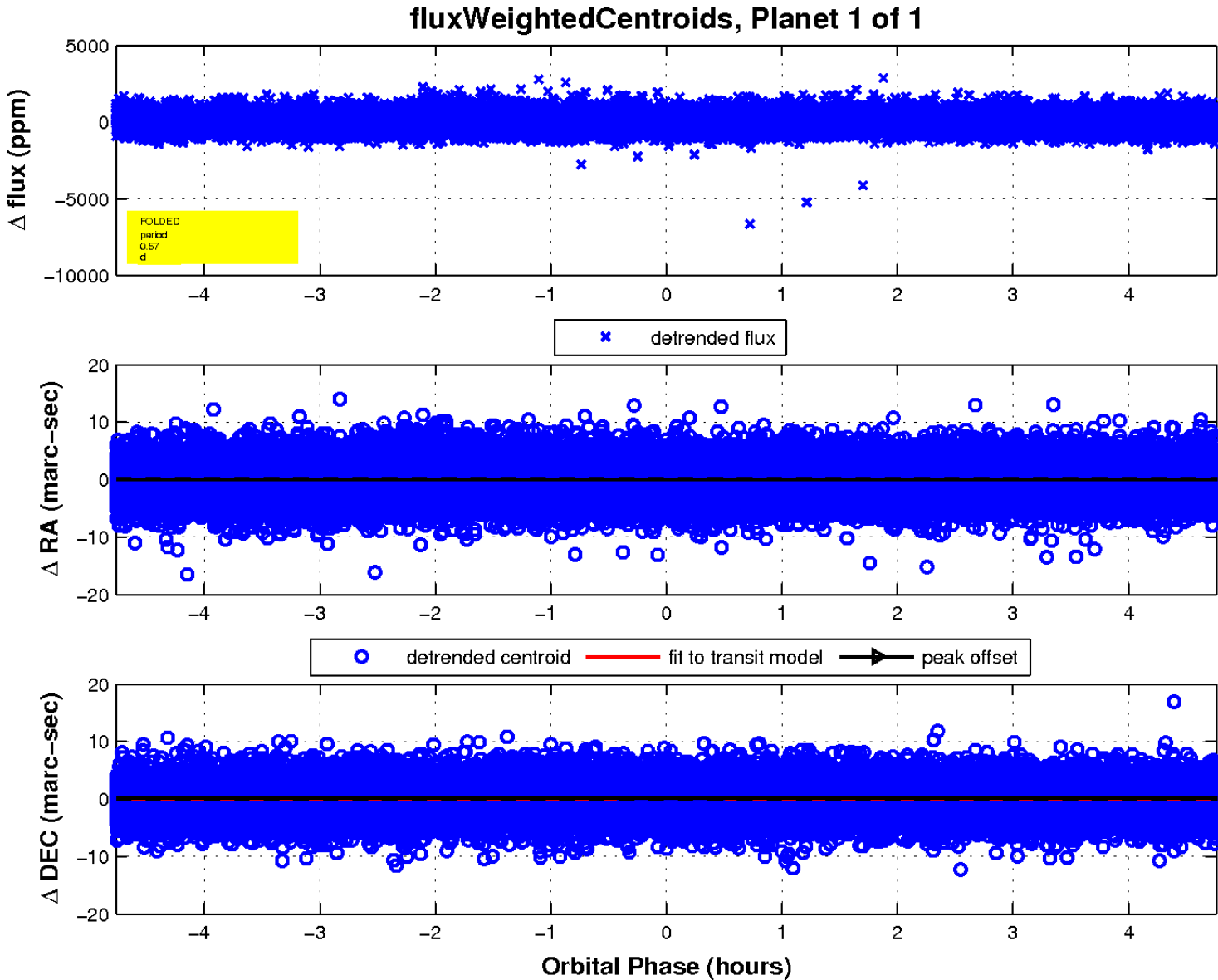
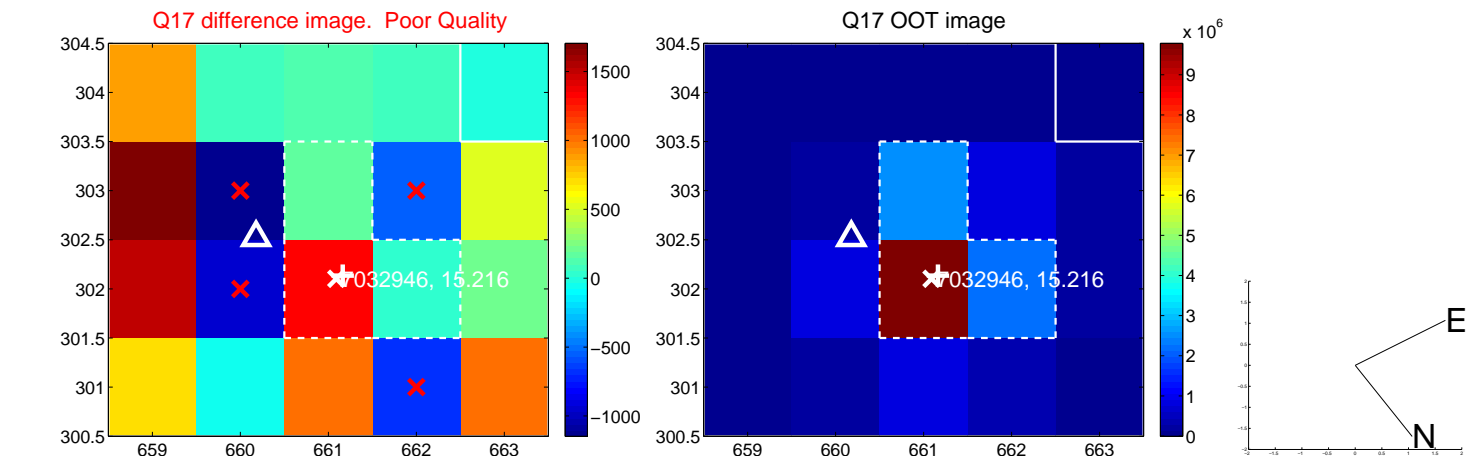
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

