

# KIC 007766199

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
007766199-01	OBS	No	0.835402	131.621680	5.4	4.982	7.9	4.6	0.79	5761	0.19	2248.07

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
007766199-01	OBS	FP	0.00	1	0	0	1	LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—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.

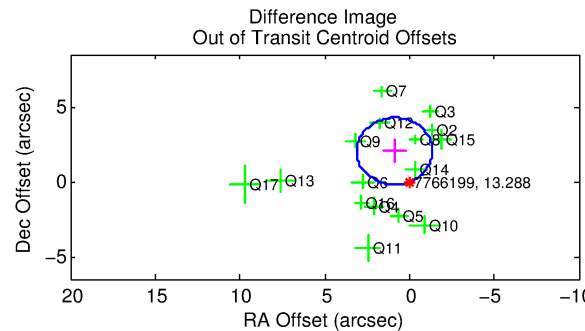
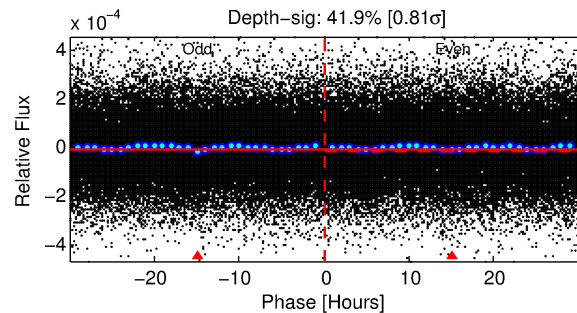
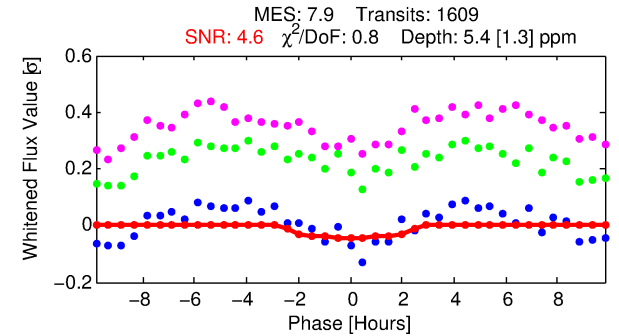
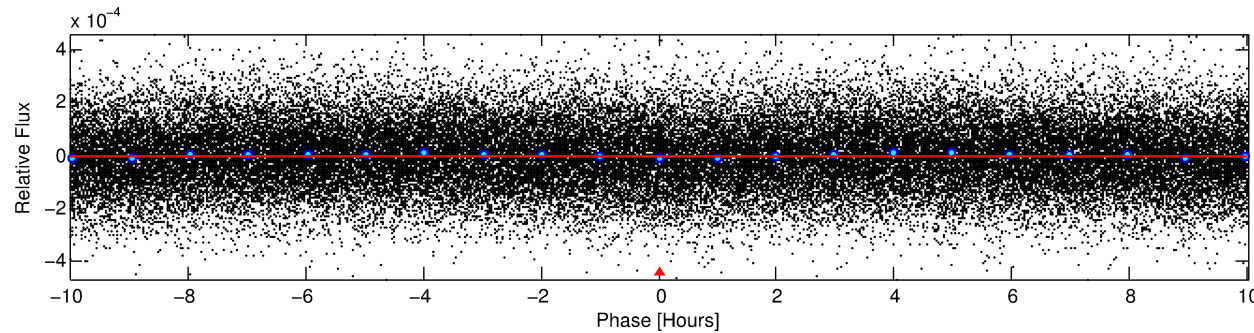
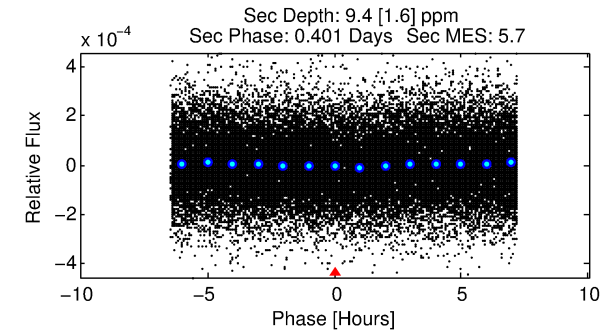
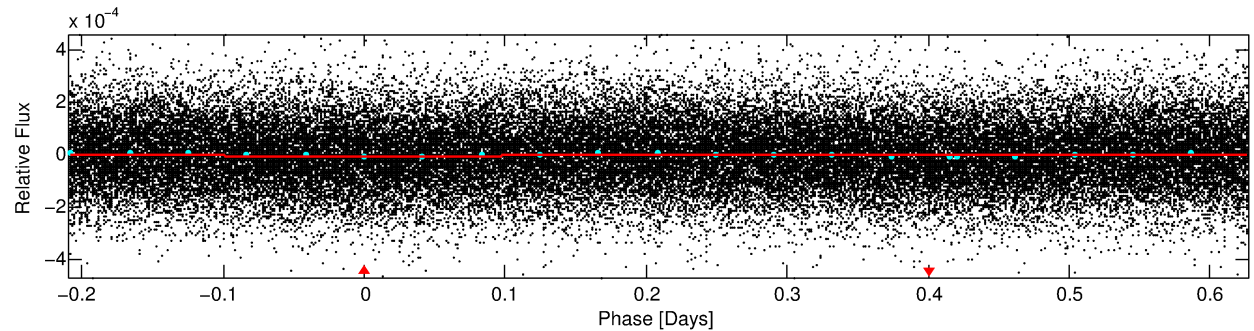
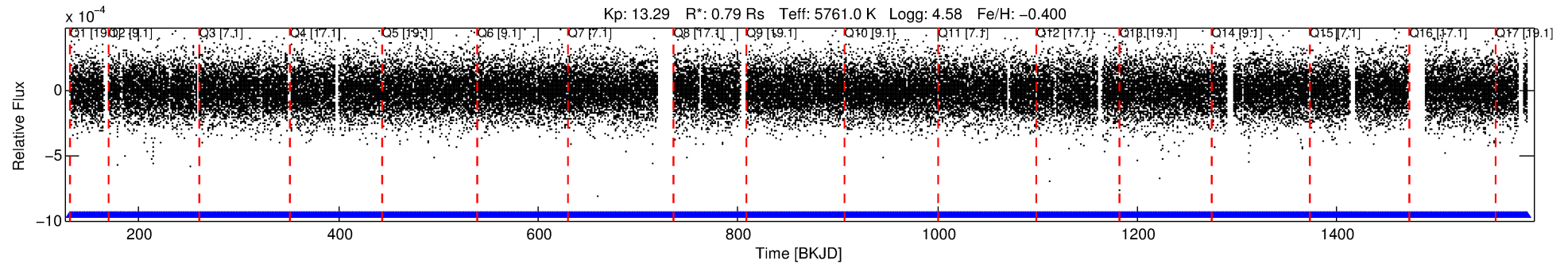
## Ephemeris Match Information For 007766199-01

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	$\sigma_P$	$\sigma_T$
007766199-01	7766199	007766113-01	7766113	1:1	75.8	9	-17	13.73	13.29	2.20	Direct-PRF	1	0.35	0.15

**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: 7766199 Candidate: 1 of 1 Period: 0.835 d



## DV Fit Results:

Period = 0.83540 [0.00003] d  
Epoch = 131.6217 [0.0124] BKJD  
Rp/R\* = 0.0022 [0.0018]  
a/R\* = 1.33 [2.28]  
b = 0.50 [5.95]  
Seff = 2248.07 [696.30]  
Teq = 1756 [136] K  
Rp = 0.19 [0.16] Re  
a = 0.0166 [0.0033] AU  
Ag = 39.99 [68.92] [0.57σ]  
Teffp = 6827 [2905] K [1.74σ]

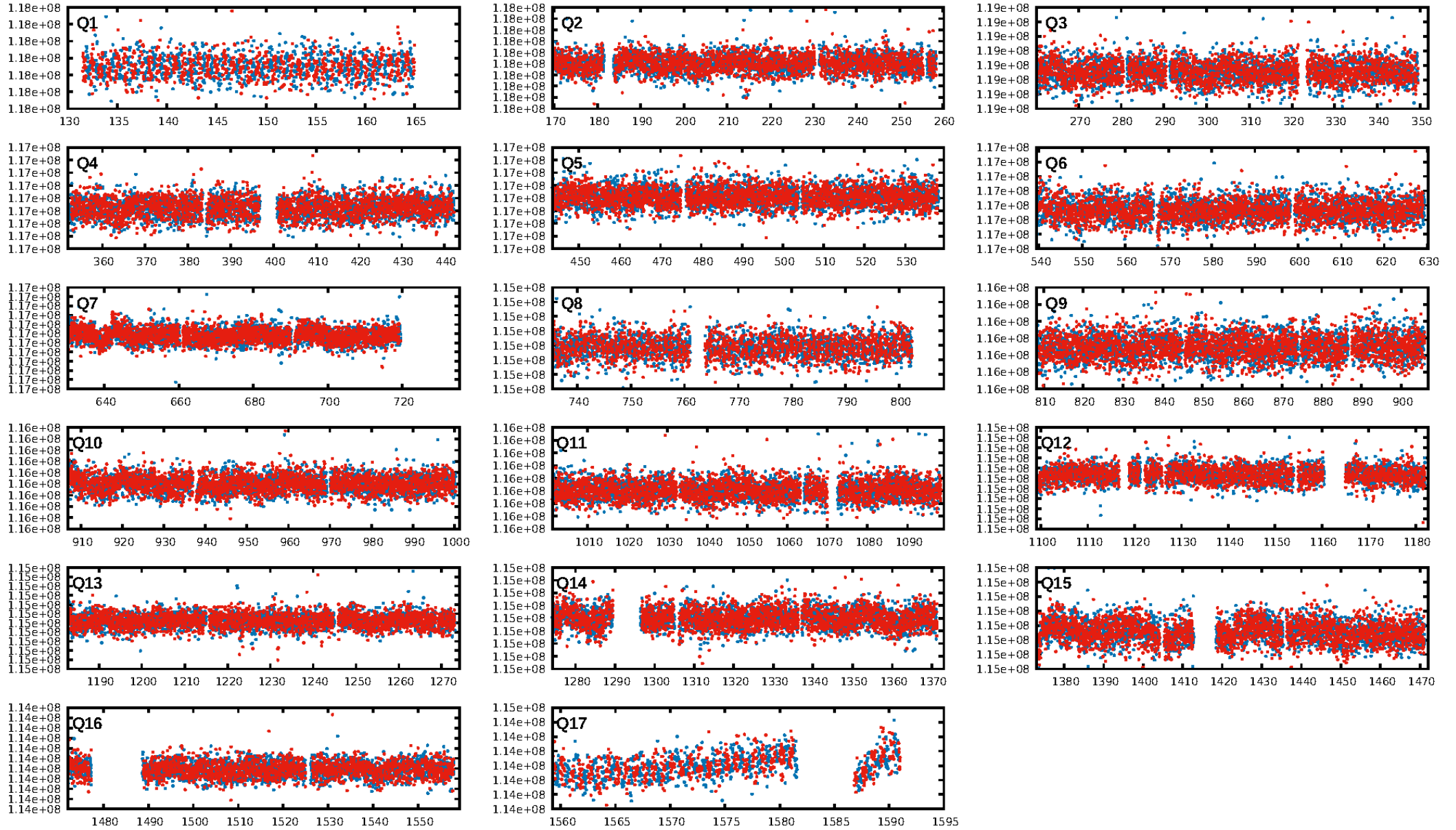
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.01e-09  
RollingBand-fgt: 1.00 [1535/1535]  
GhostDiagnostic-chr: 0.3655  
Centroid-sig: 0.0%  
Centroid-so: 7.619 arcsec [3.03σ]  
OotOffset-rm: 2.216 arcsec [2.98σ]  
KicOffset-rm: 2.330 arcsec [3.14σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 0.19 [3/16]  
DiffImageOverlap-fno: 1.00 [17/17]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 17:58:05 Z

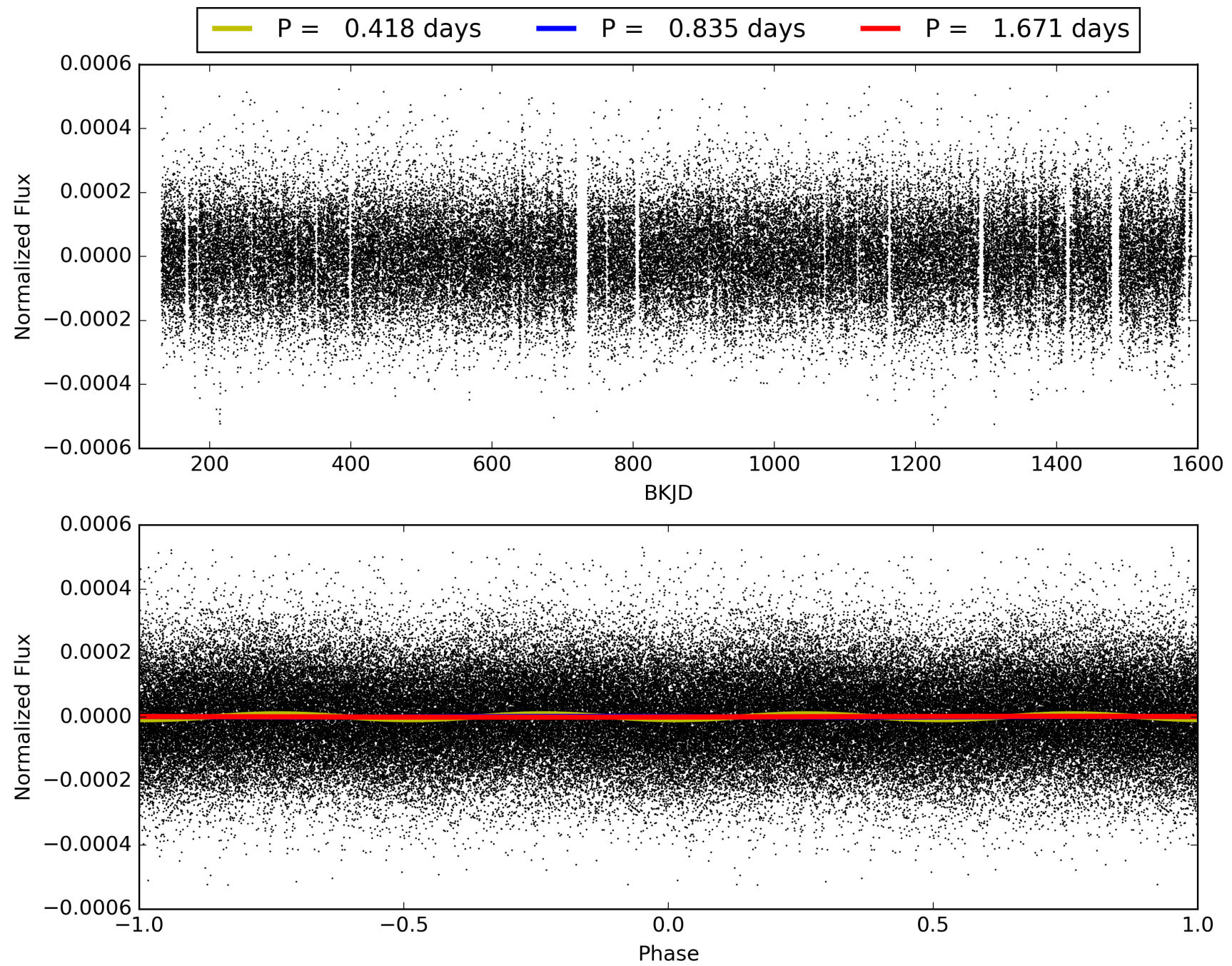
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 007766199-01, PDC Light Curves



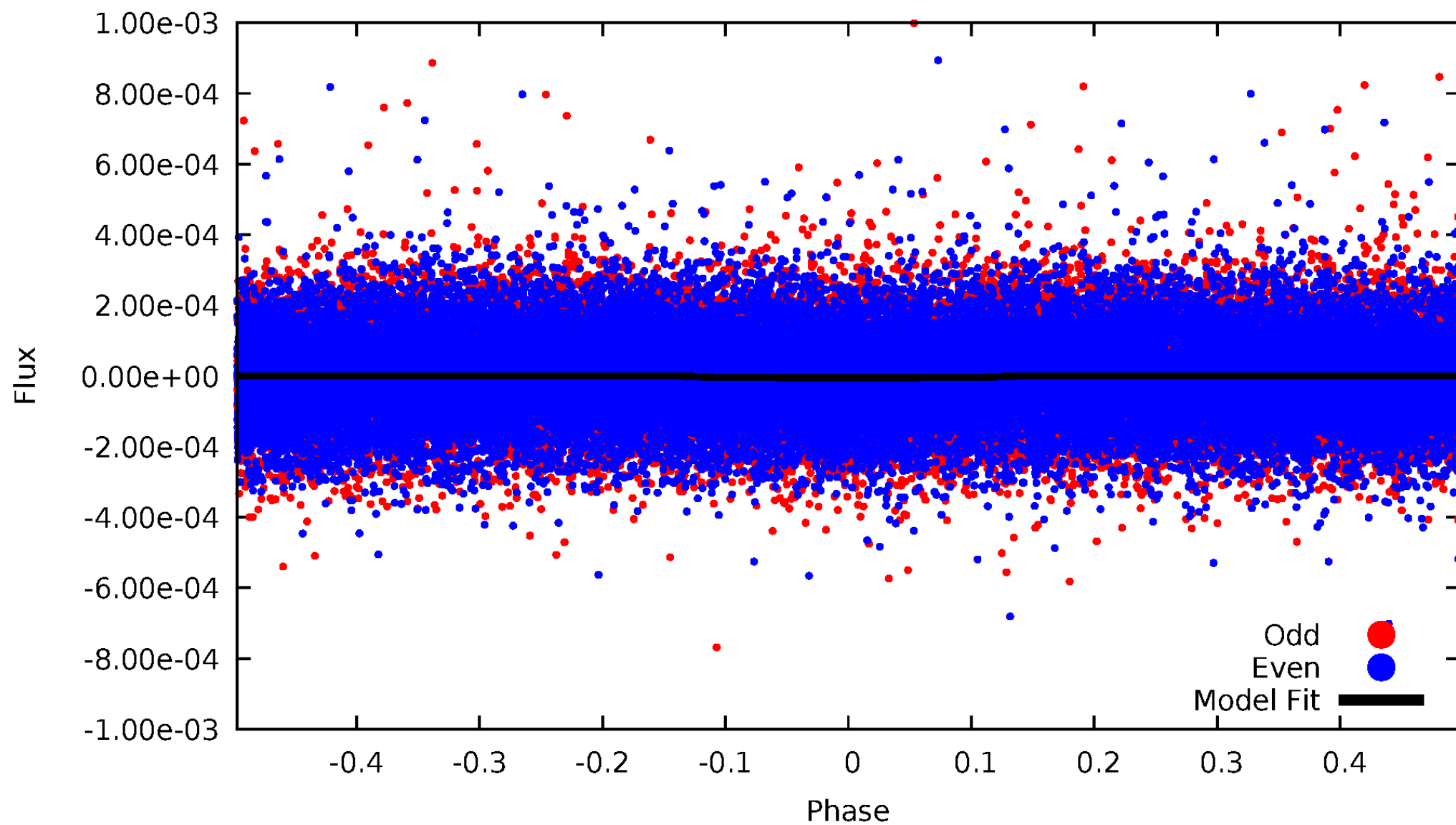


TCE 007766199-01



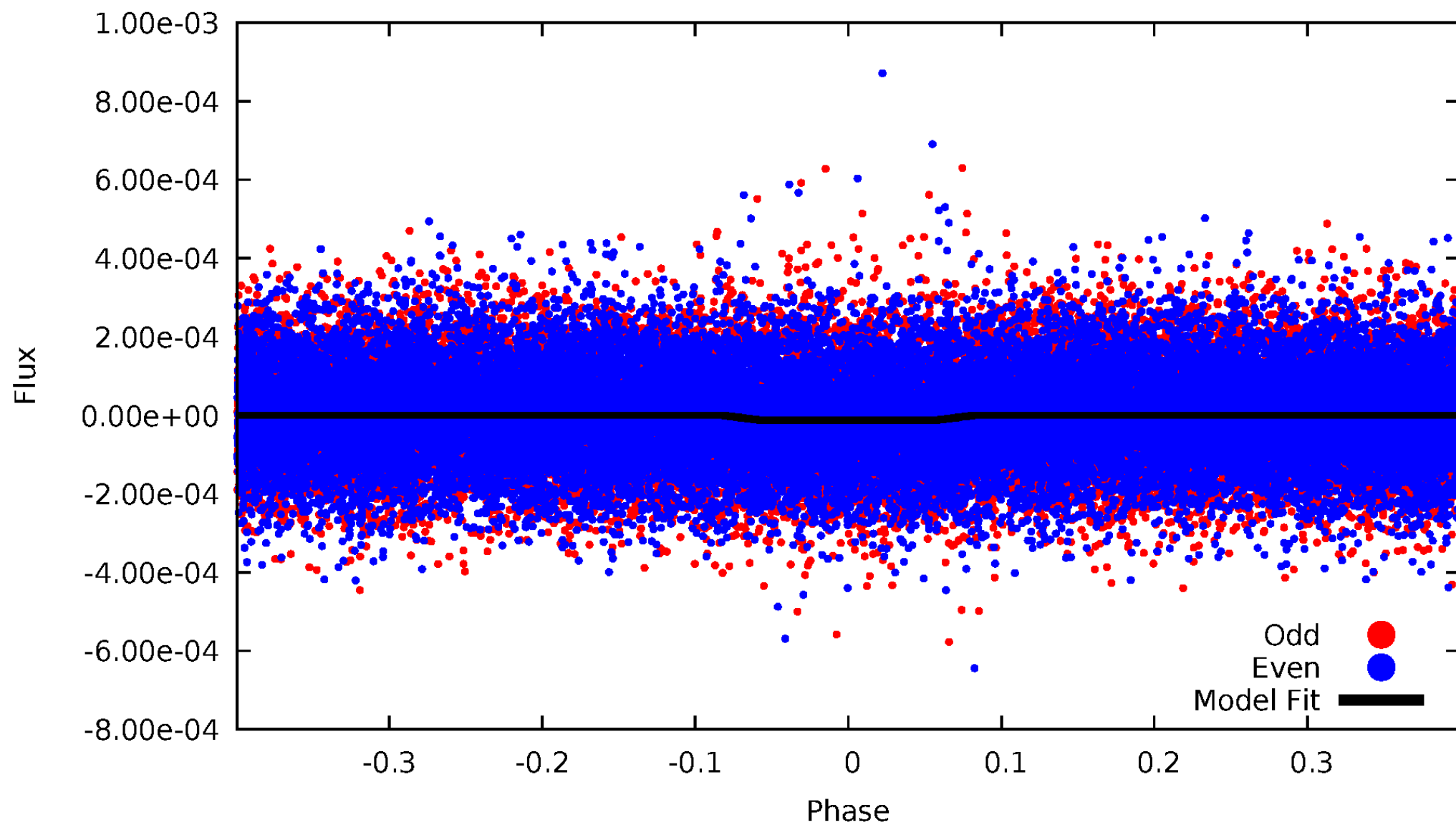
# DV Odd/Even

TCE 007766199-01



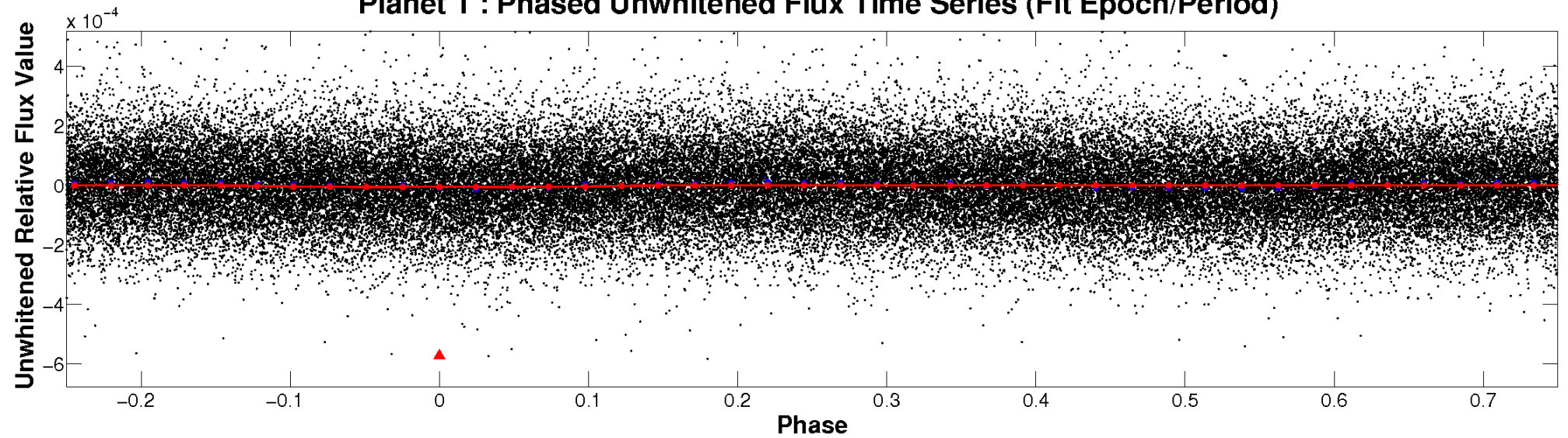
# ALT Odd/Even

TCE 007766199-01

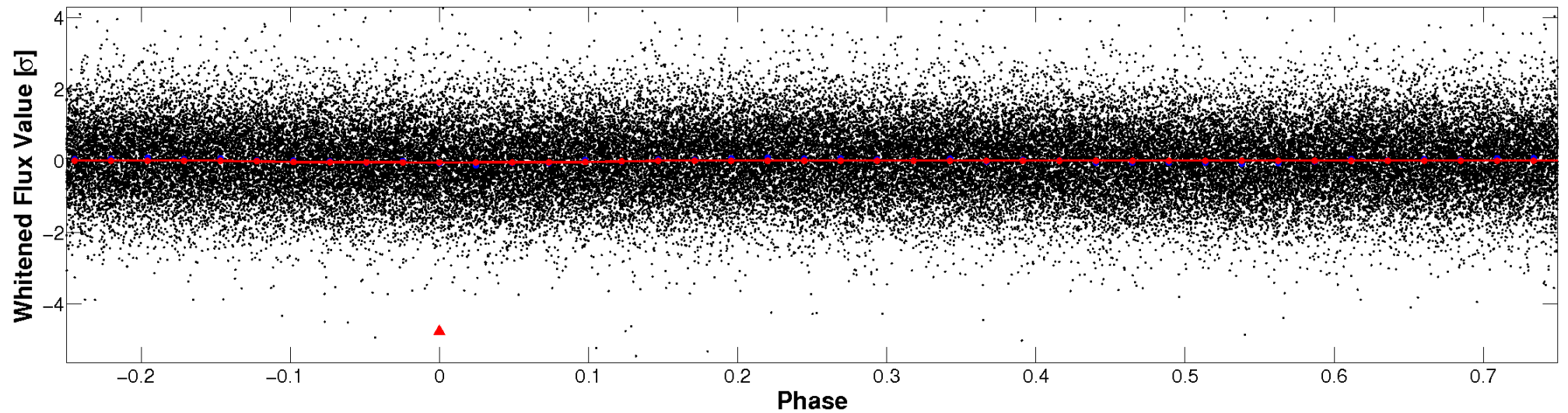


# Non-Whitened Vs. Whitened Light Curve

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



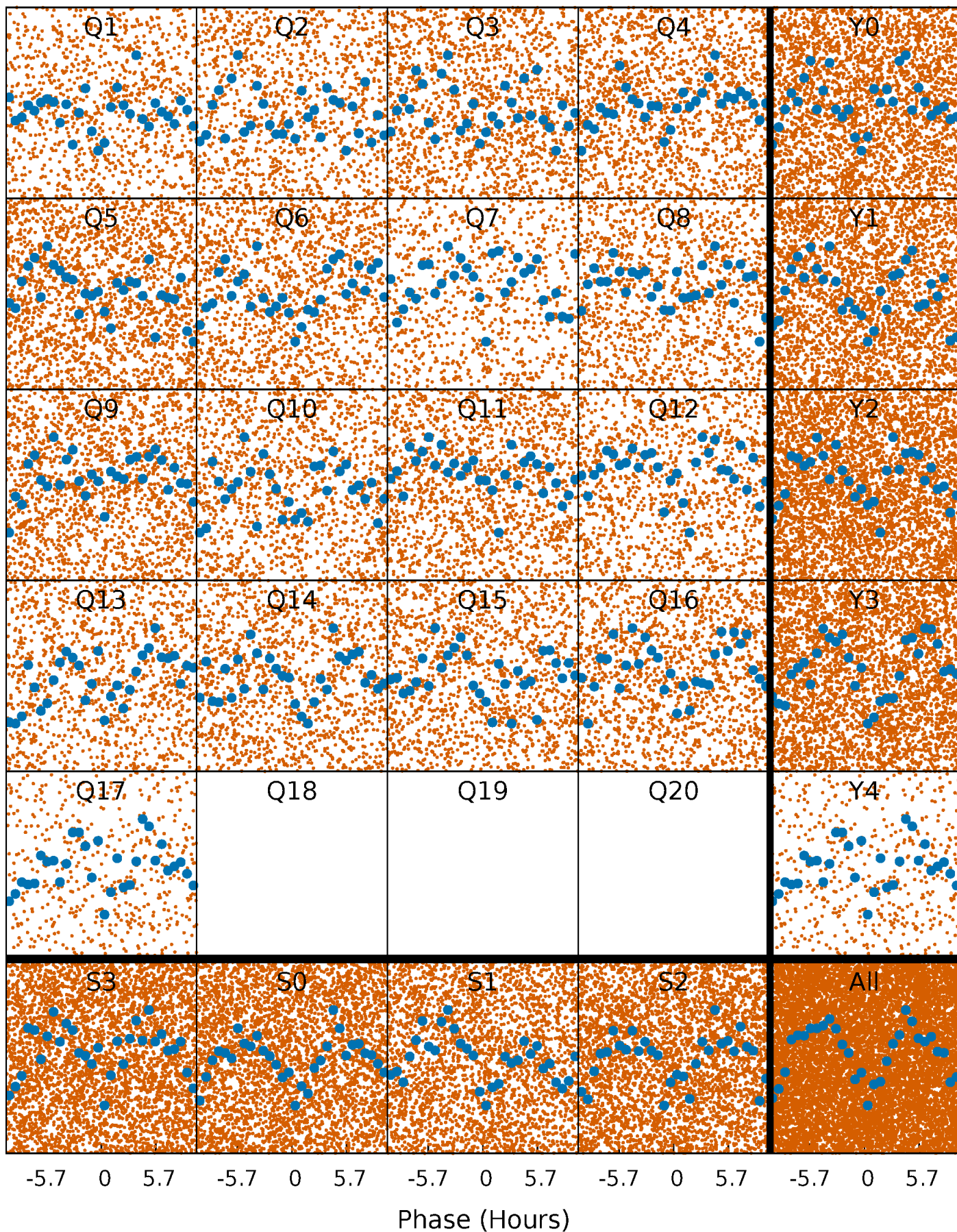
**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**





# PDC Quarter-Phased Transit Curves

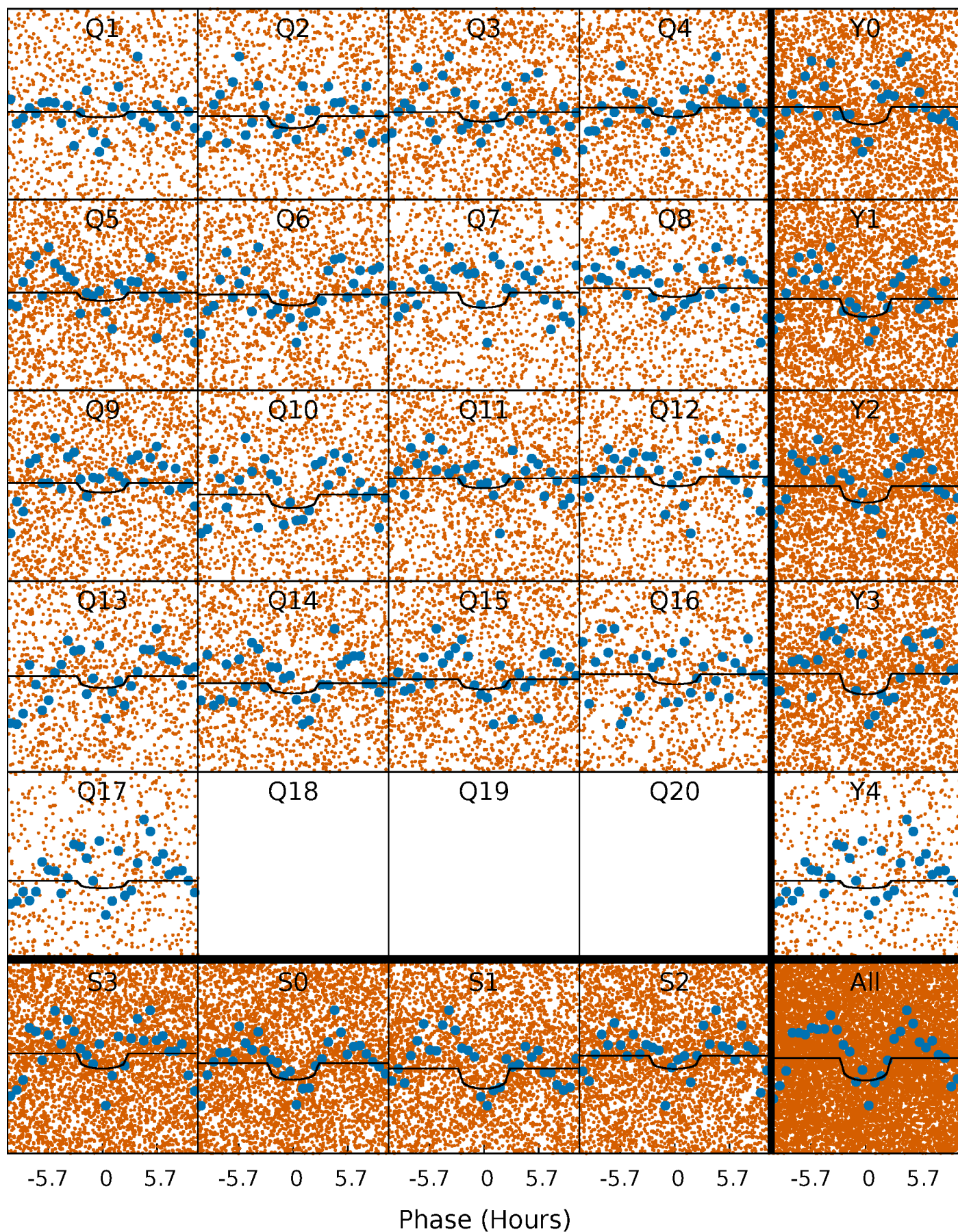
TCE 007766199-01 P= 0.835402 Days  $T_0=131.621680$  (BKJD)





# DV Quarter-Phased Transit Curves

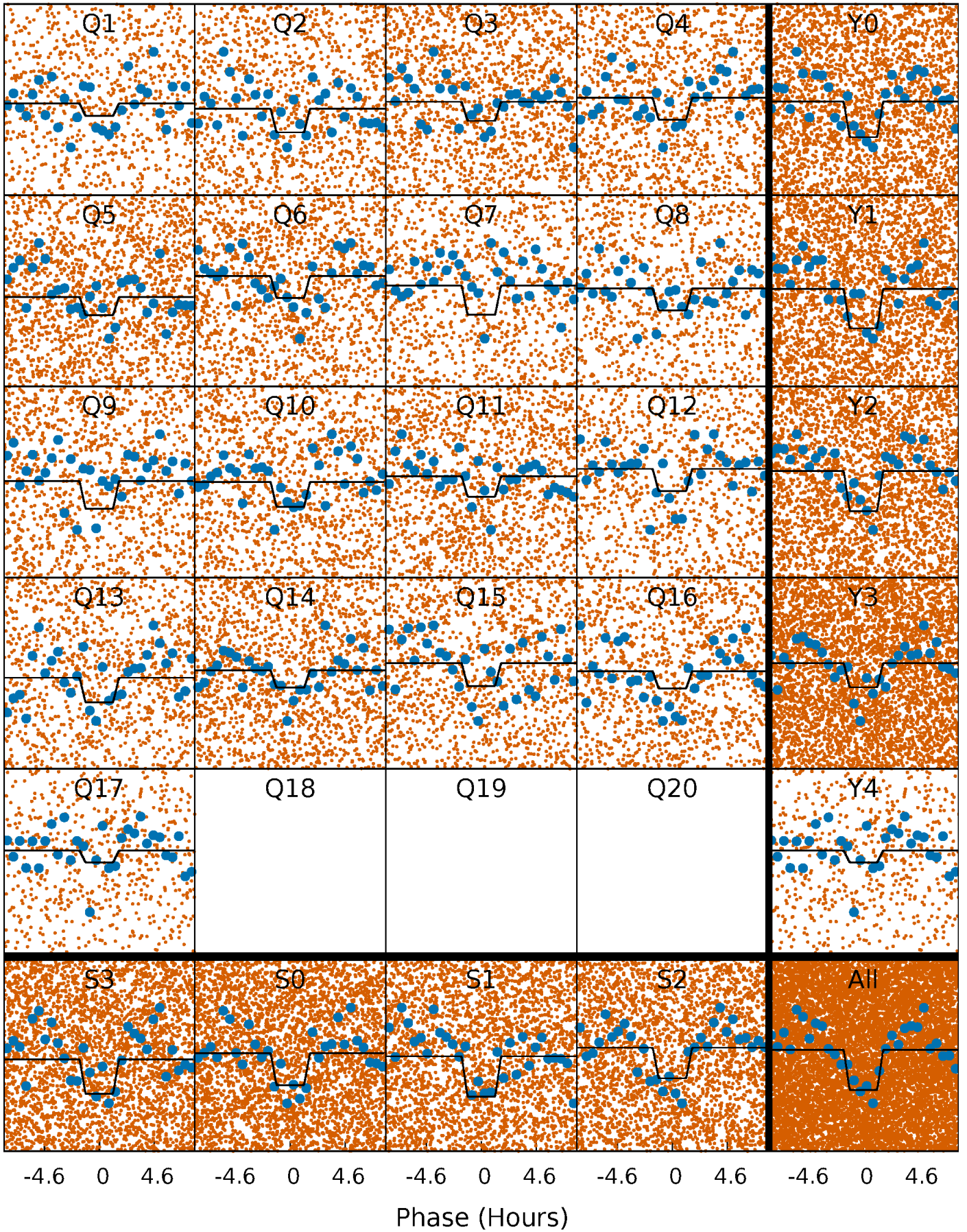
TCE 007766199-01 P= 0.835402 Days  $T_0=131.621680$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

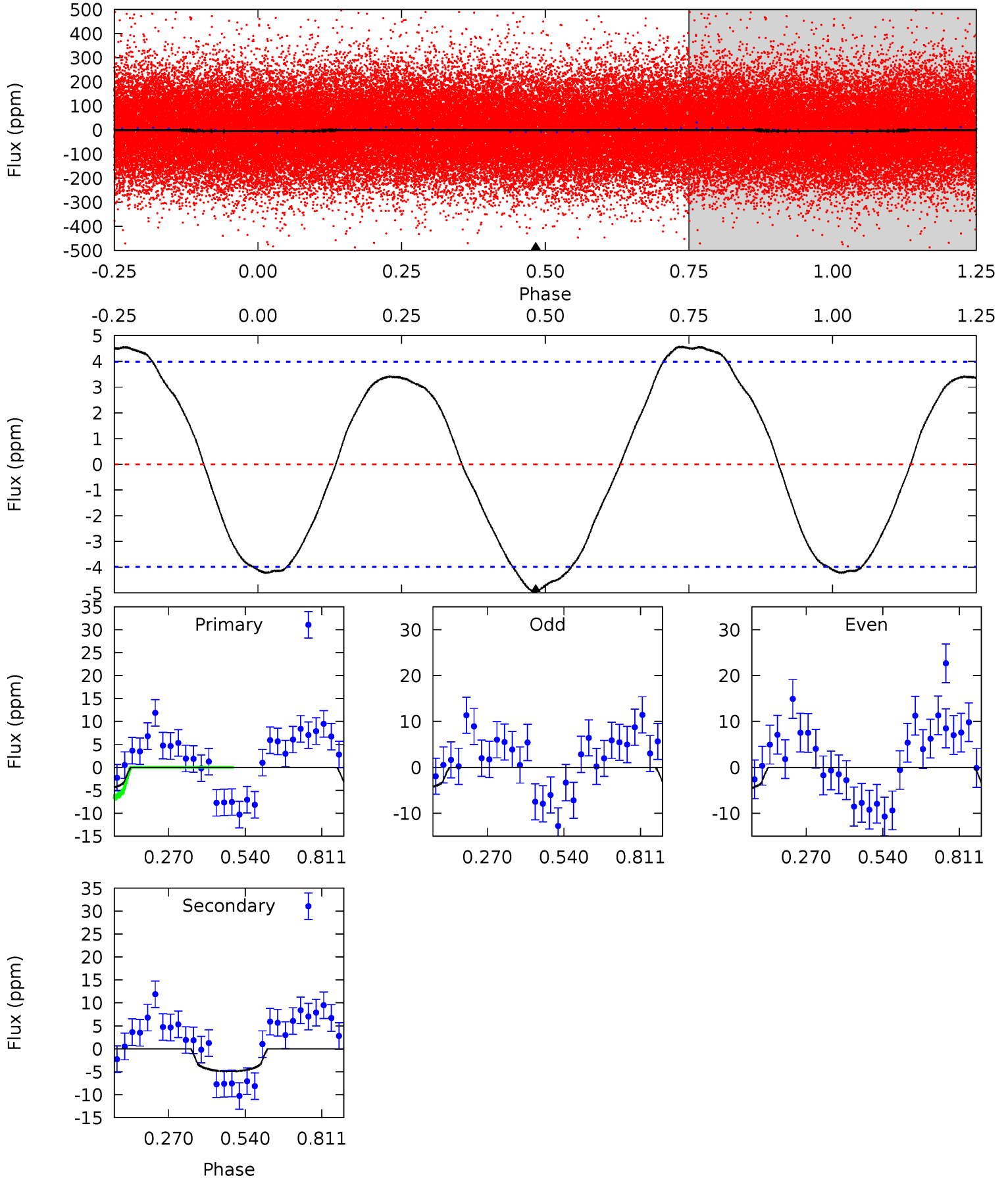
TCE 007766199-01 P= 0.835457 Days  $T_0=131.591042$  (BKJD)



# DV Model-Shift Uniqueness Test

007766199-01, P = 0.835402 Days, E = 130.786278 Days

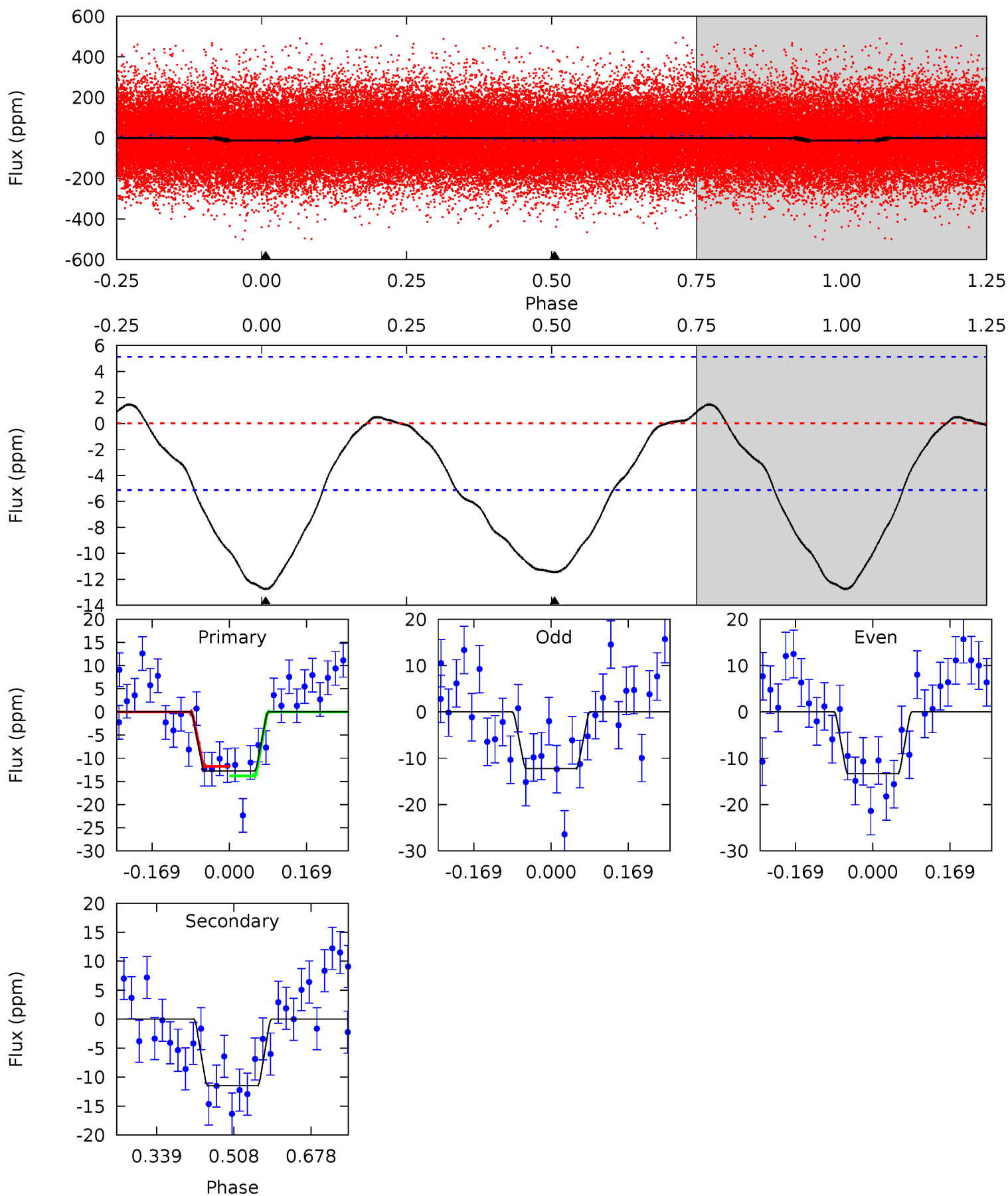
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.41	5.41	0	0	4.35	1.10	3.37	5.41	5.41	5.41	5.41	0.16	0.98	0.48	2.80



# Alt Model-Shift Uniqueness Test

007766199-01, P = 0.835457 Days, E = 130.755585 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	9.95	0	0	4.45	1.37	1.23	11.1	11.1	9.95	9.95	0.50	0.93	0.10	0.92





### Stellar Parameters For KIC 007766199

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5761^{+138}_{-155}$	$4.581^{+0.038}_{-0.161}$	$-0.400^{+0.300}_{-0.300}$	$0.791^{+0.181}_{-0.060}$	$0.881^{+0.087}_{-0.106}$	$2.505^{+0.498}_{-1.046}$
	+2%/-3%	+1%/-4%	+75%/-75%	+23%/-8%	+10%/-12%	+20%/-42%
Source	PHO1	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 007766199-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-5 \pm 1$	$0.22^{+0.16}_{-0.13}$	$2491^{+134}_{-96}$	$5408^{+3347}_{-1078}$	$14^{+71}_{-10}$
Alt.	$-11 \pm 1$	$0.33^{+0.16}_{-0.16}$	$2498^{+131}_{-100}$	$5546^{+2436}_{-936}$	$16^{+46}_{-9}$

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

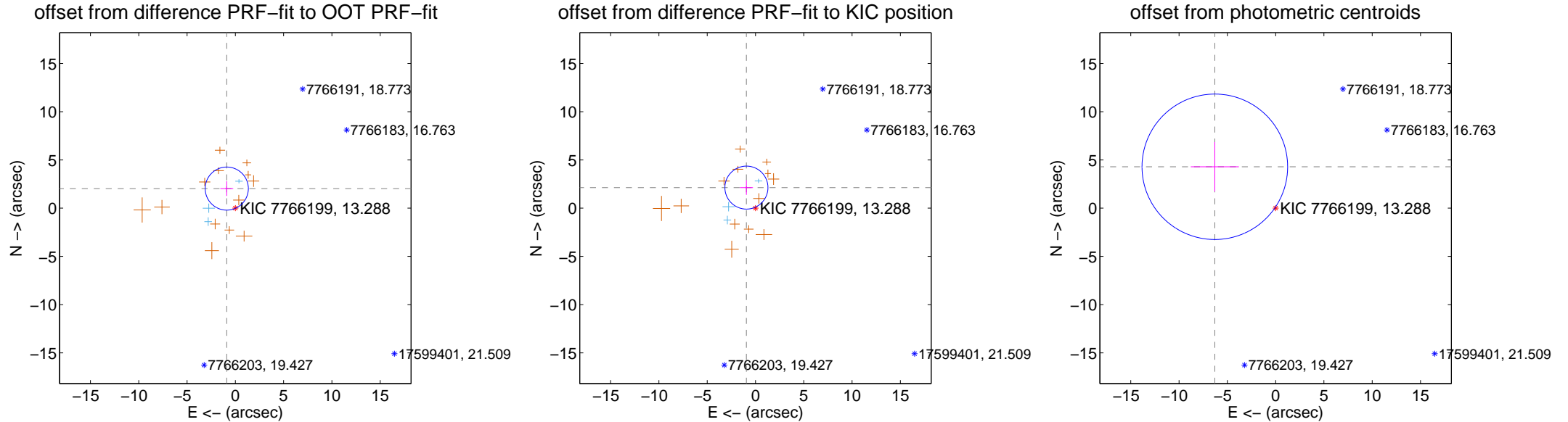
## DV Centroid Data

Supplemental centroid analysis for 007766199-01. Kepler magnitude: 13.29. Transit SNR 4.64

There are 3 quarters with good PRF difference image offsets

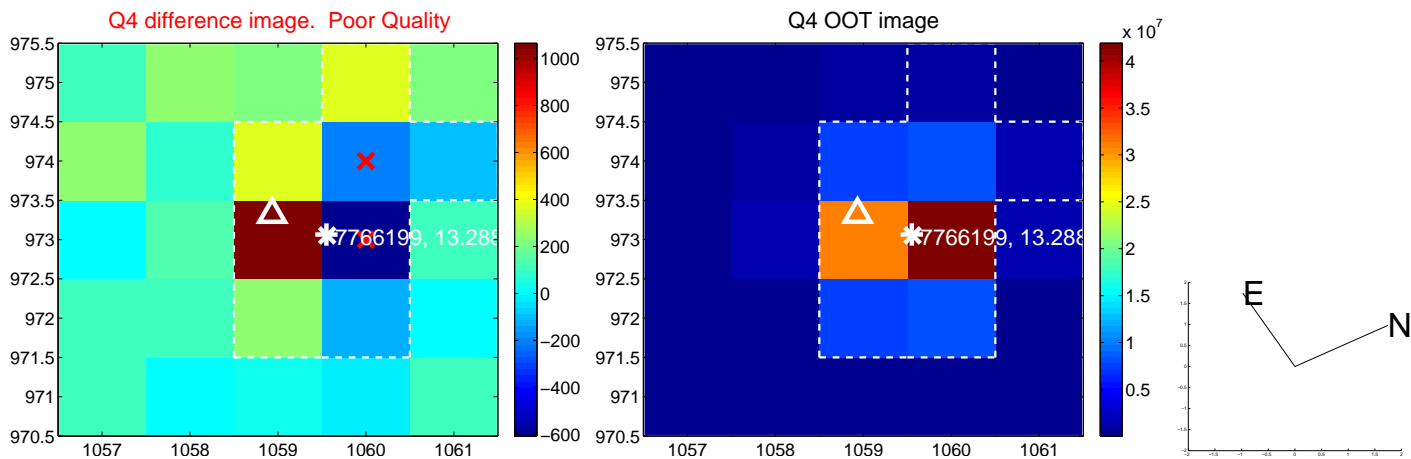
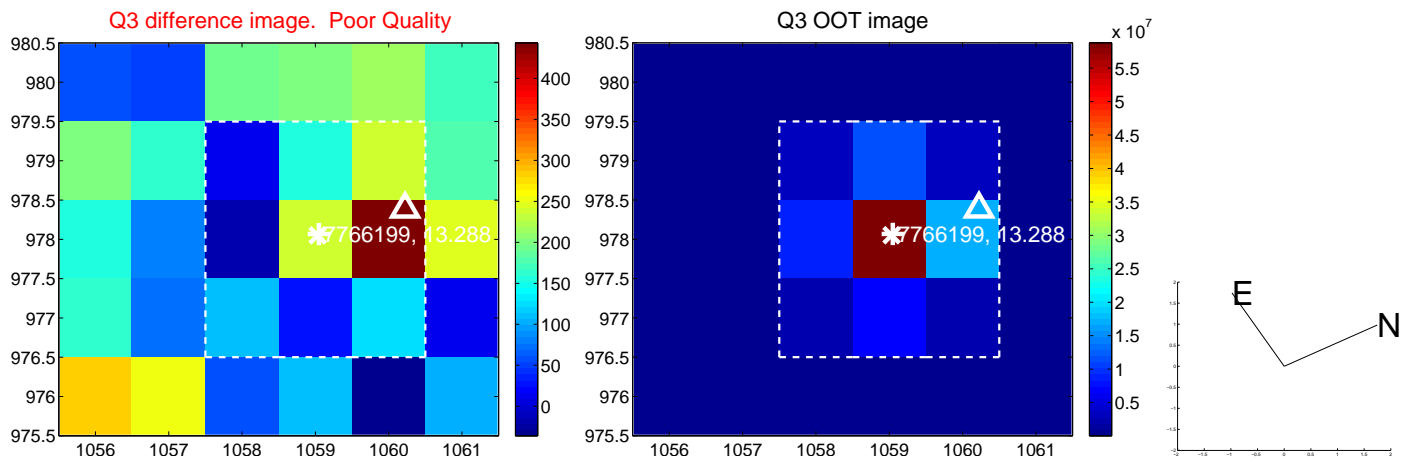
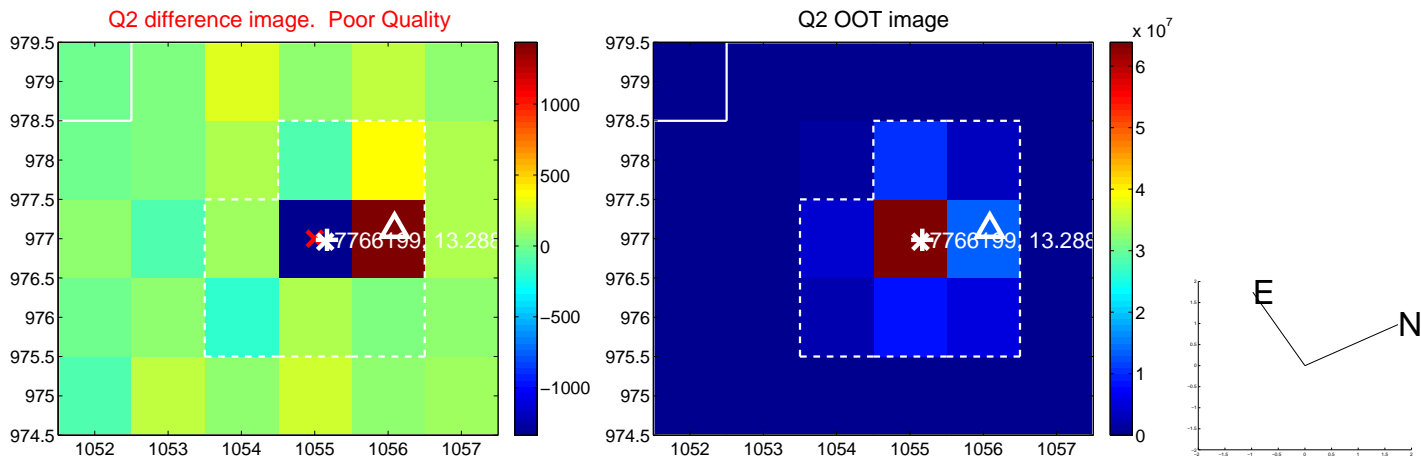
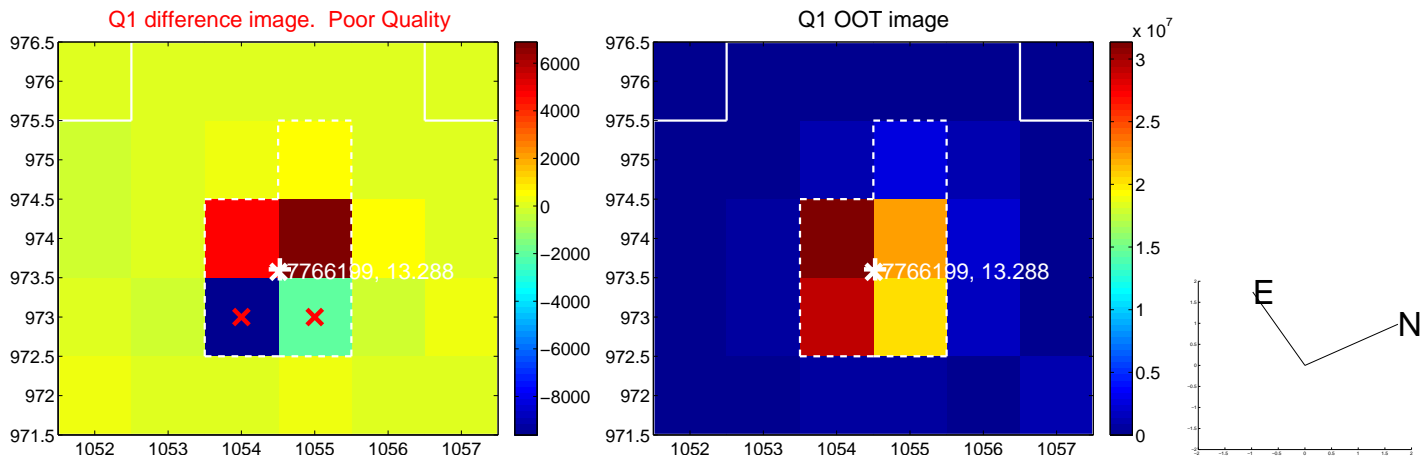
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.216 \pm 0.744$	2.98	$0.888 \pm 0.666$	$2.031 \pm 0.759$
PRF-fit source offset from KIC position	$2.330 \pm 0.743$	3.14	$0.939 \pm 0.674$	$2.133 \pm 0.755$
photometric centroid source offset	$7.62 \pm 2.51$	3.03	$6.30 \pm 2.49$	$4.29 \pm 2.56$

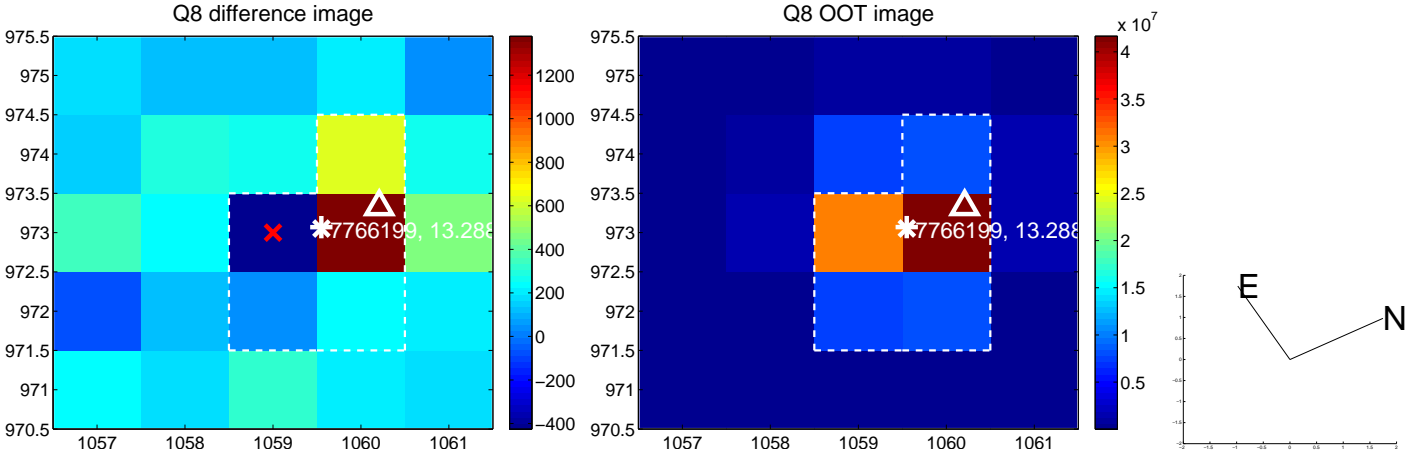
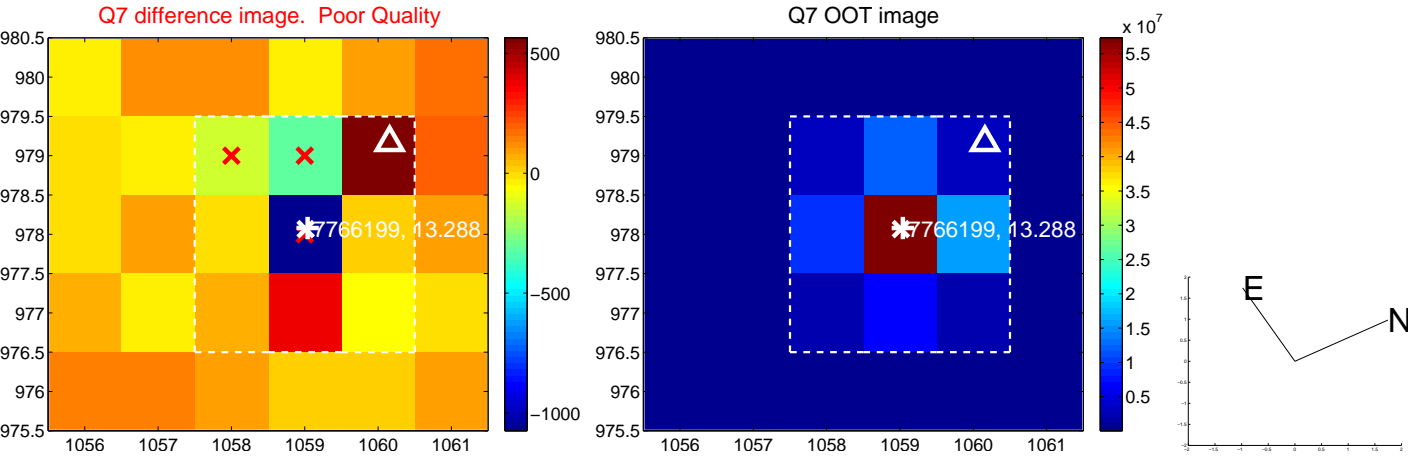
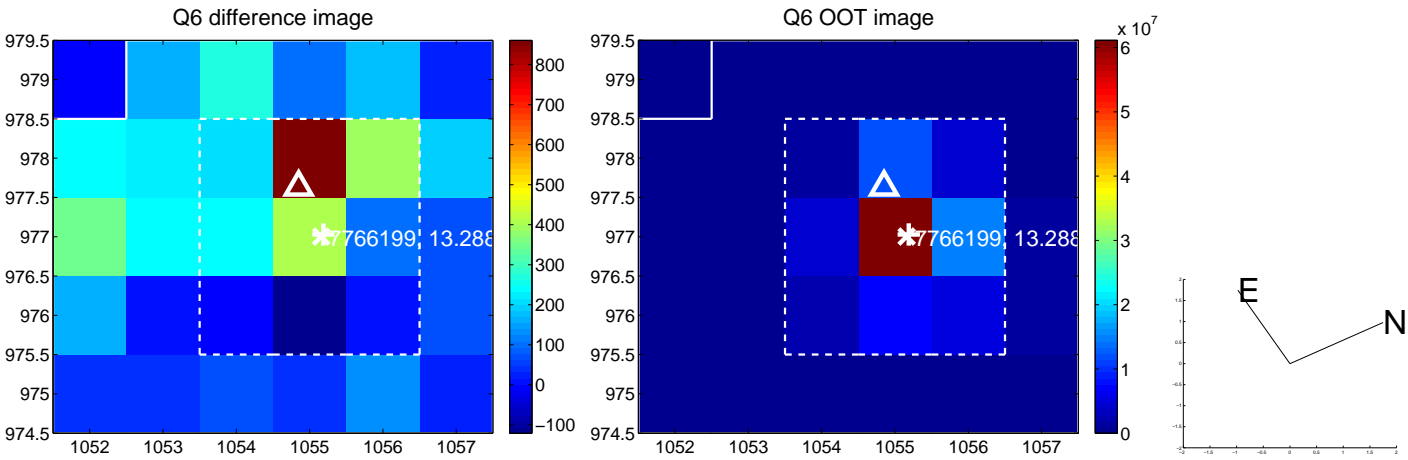
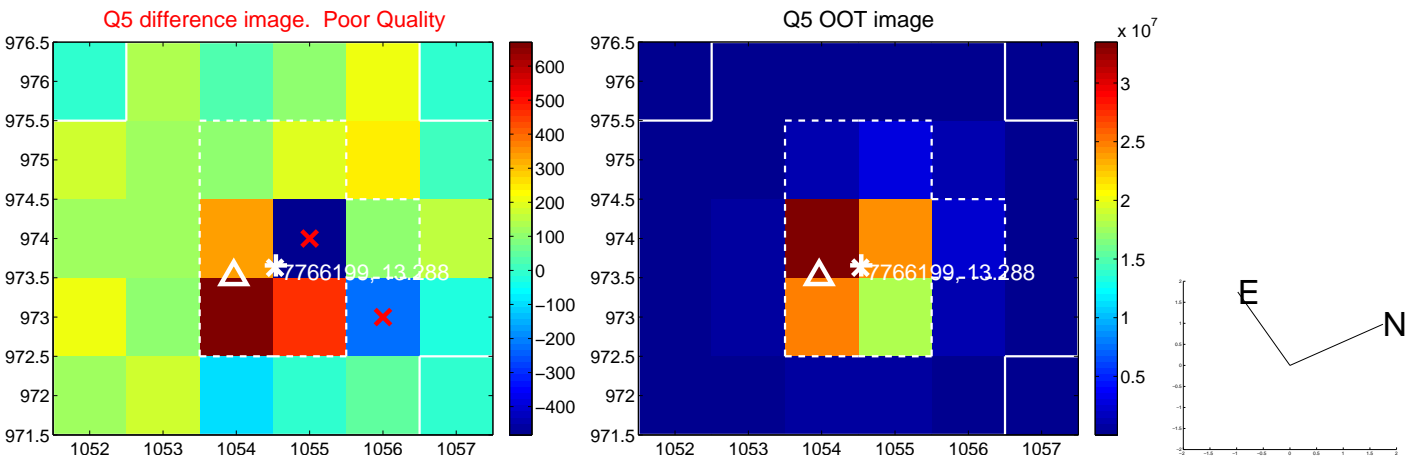


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

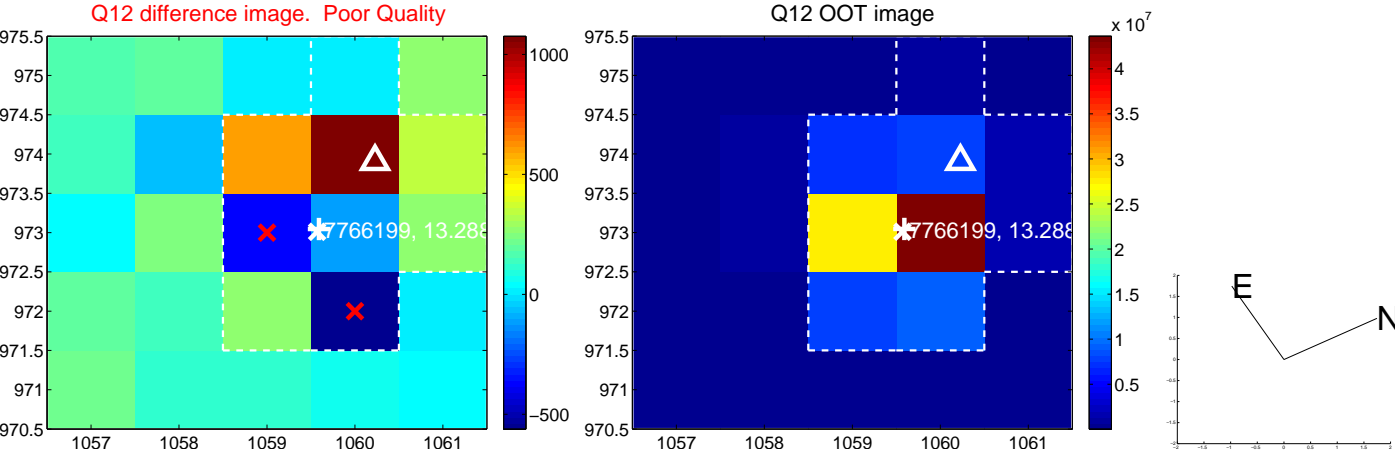
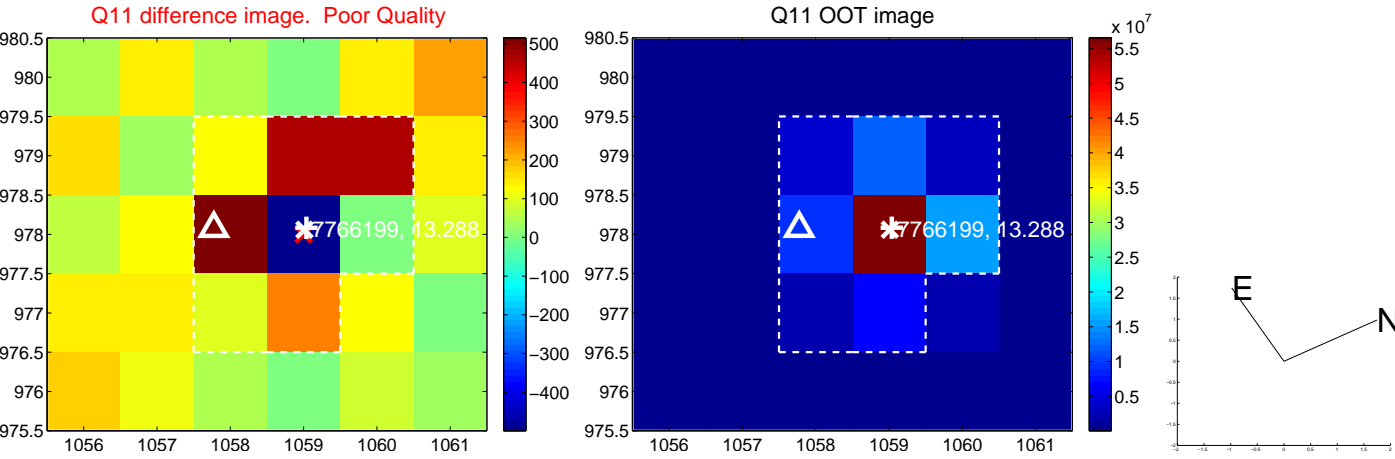
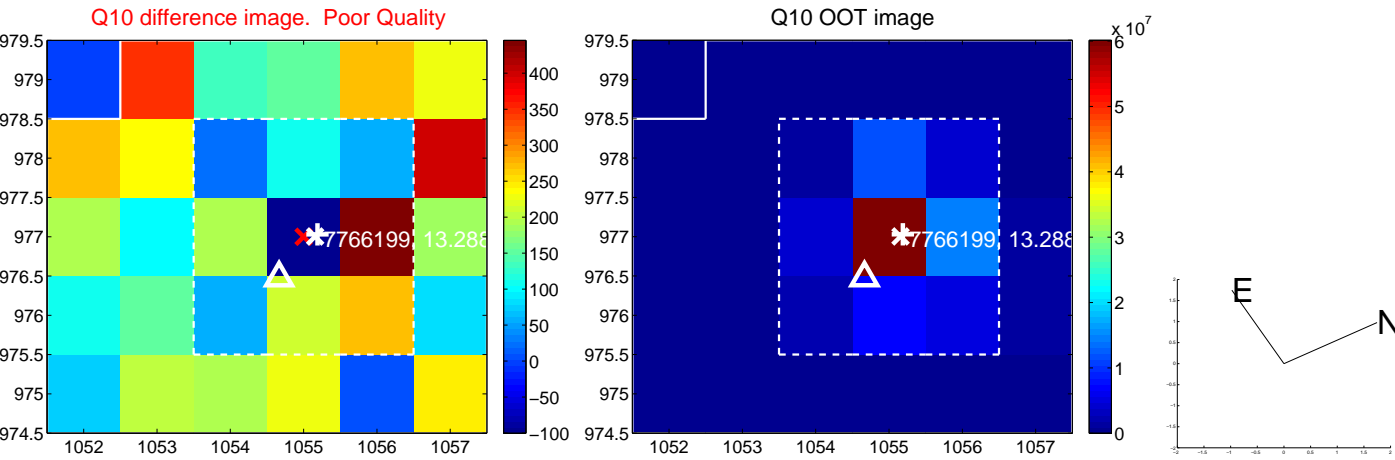
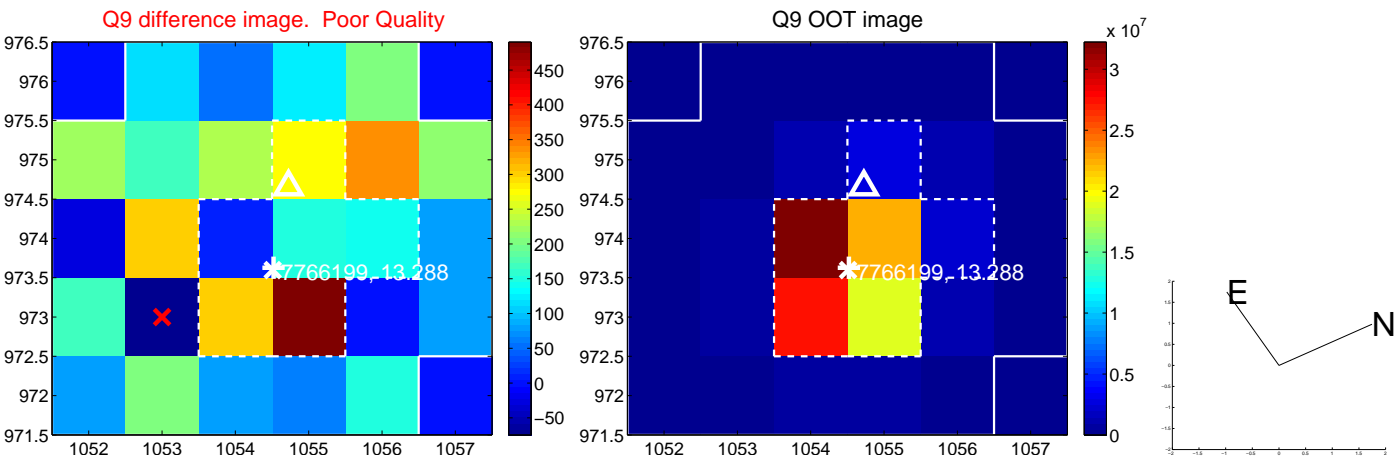


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

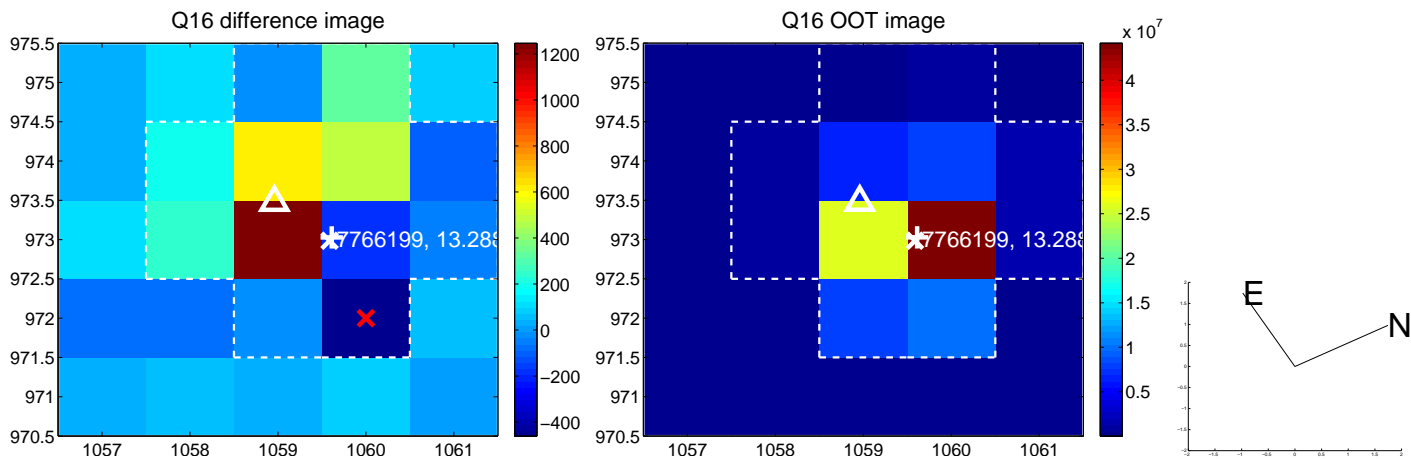
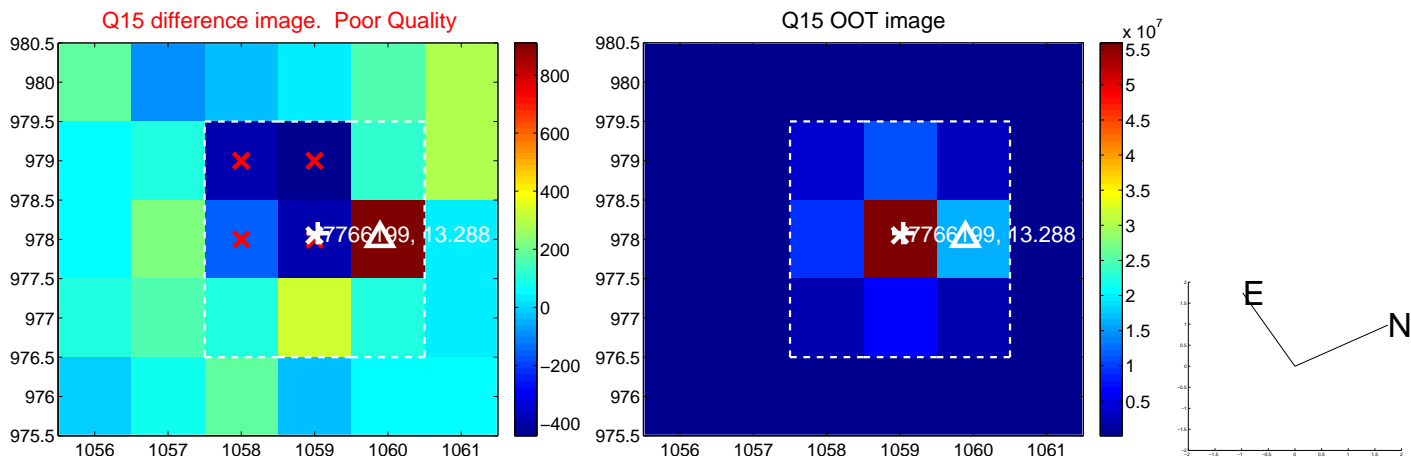
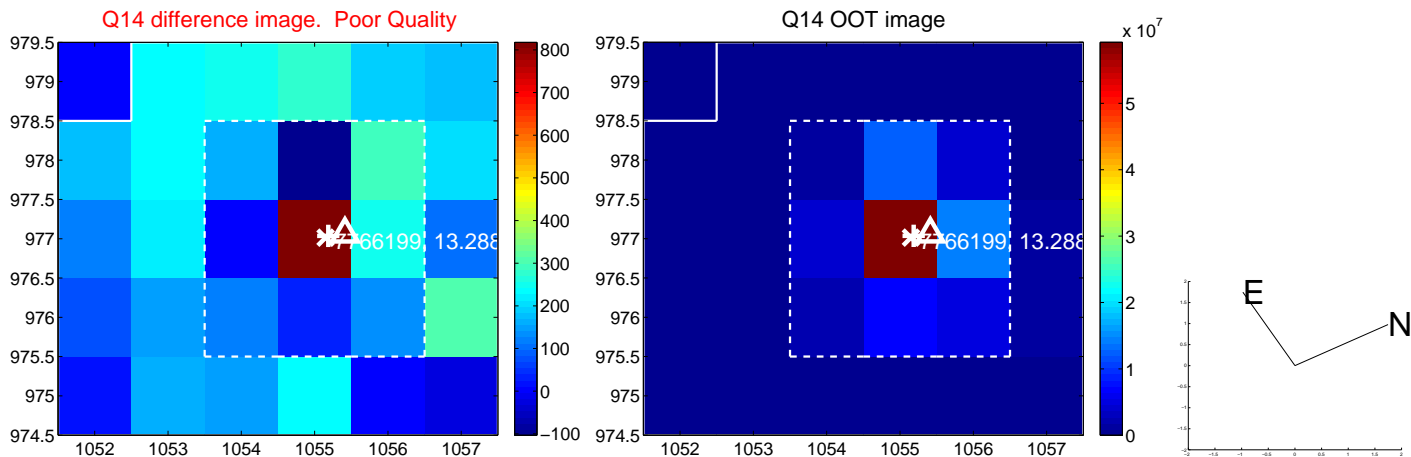
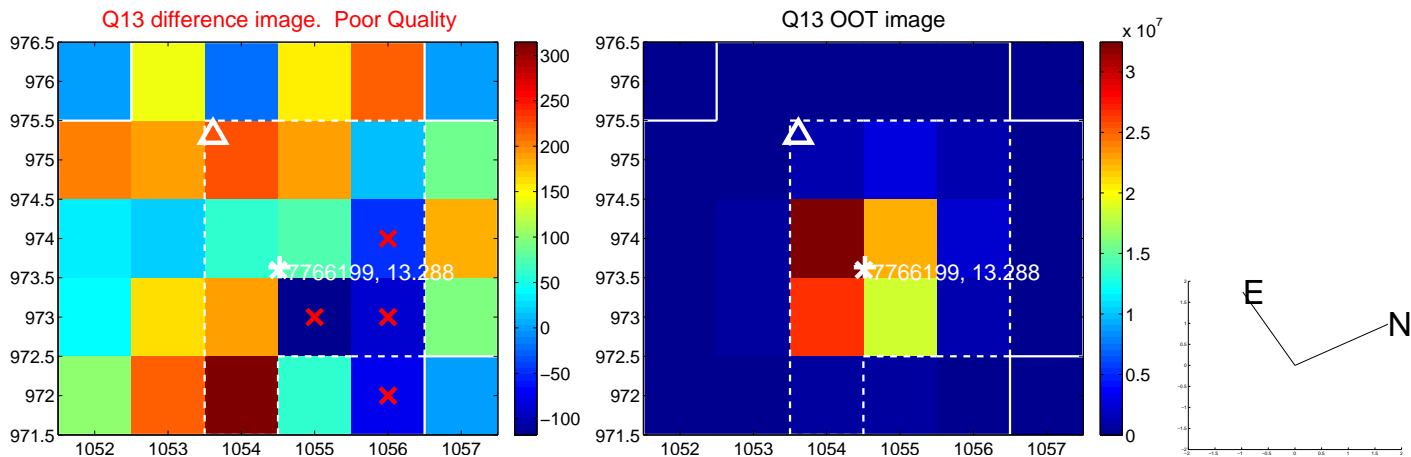




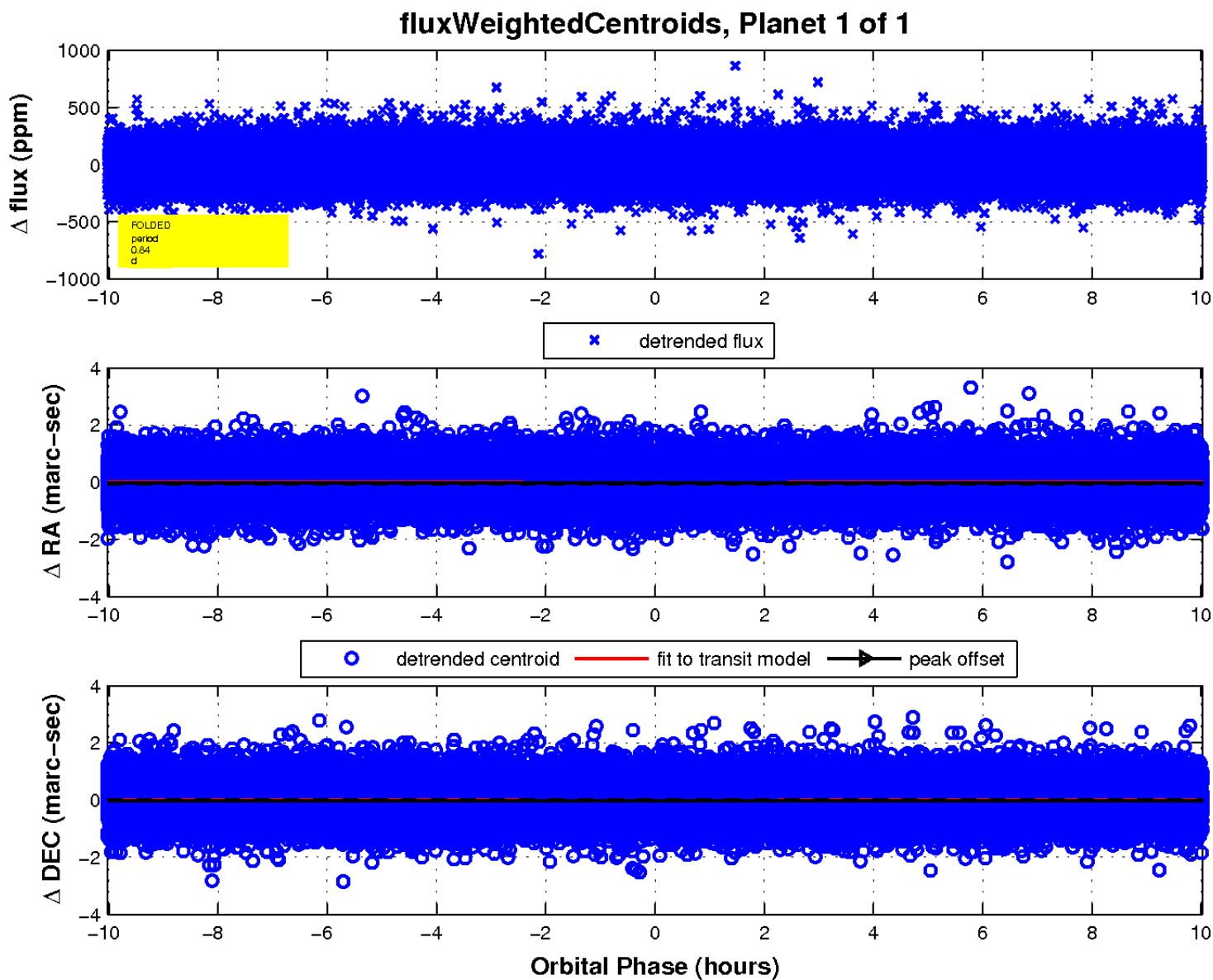
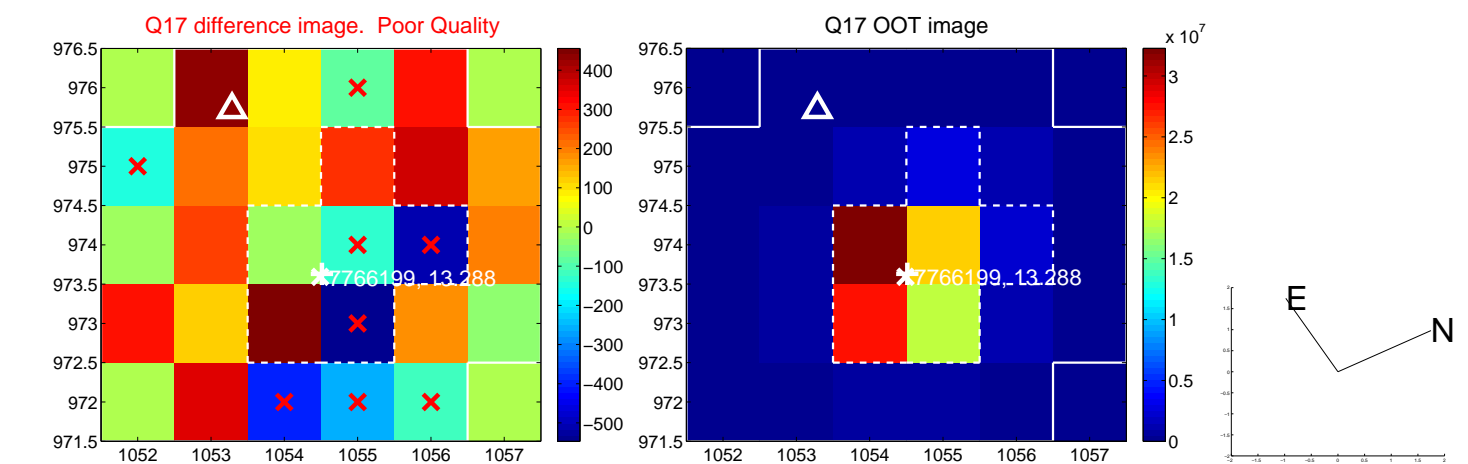
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

