

# KIC 011766996

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011766996-01	OBS	No	2.570109	132.152355	13.9	21.436	10.3	7.8	2.29	7016	0.90	6183.60

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011766996-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV

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

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

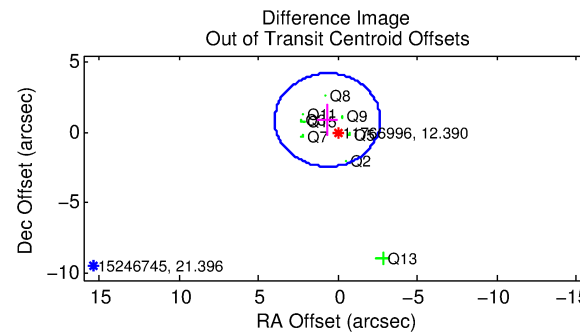
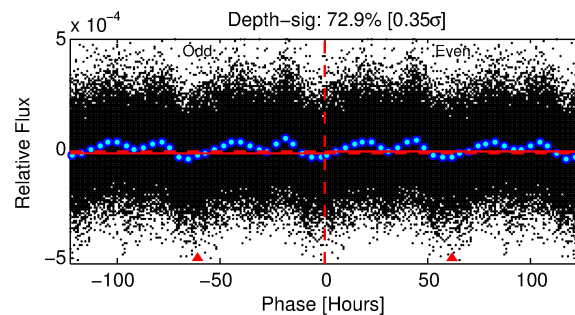
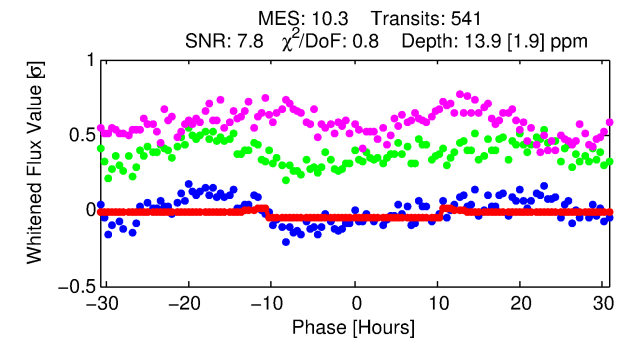
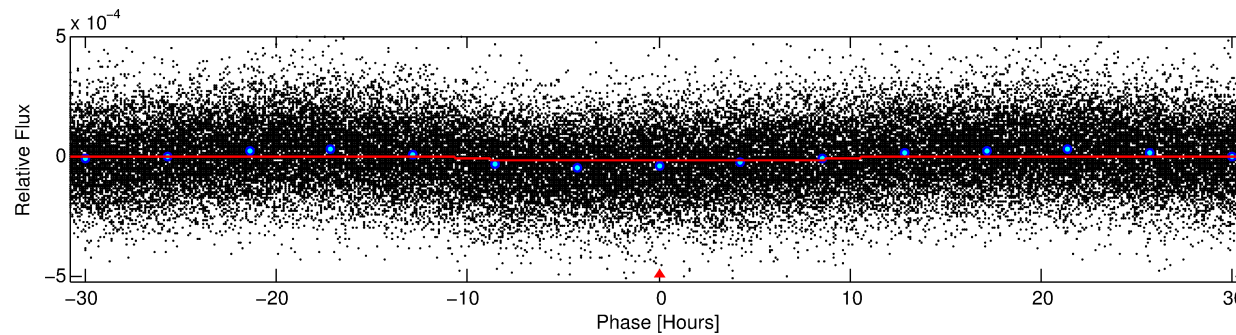
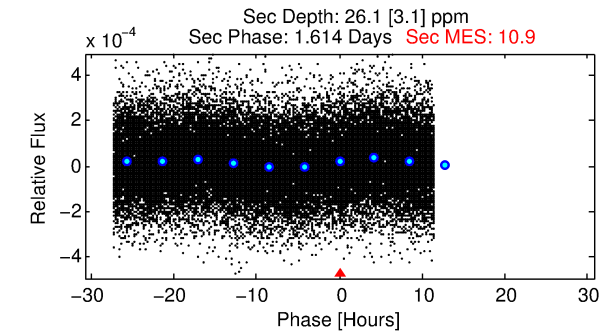
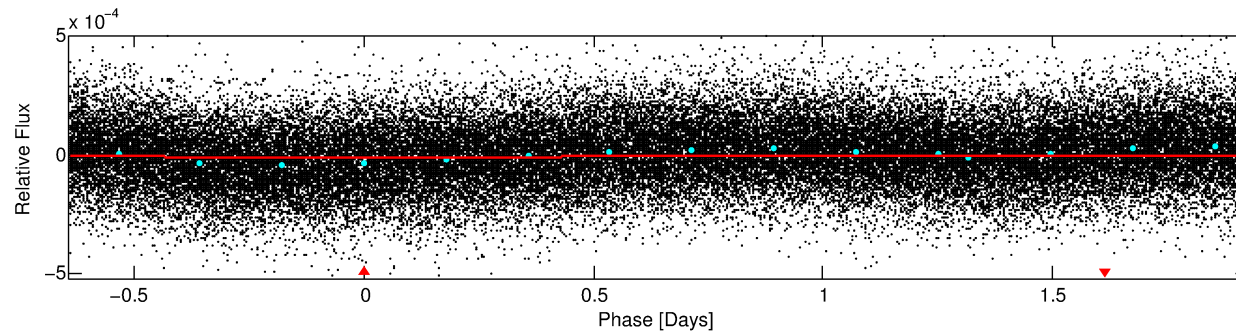
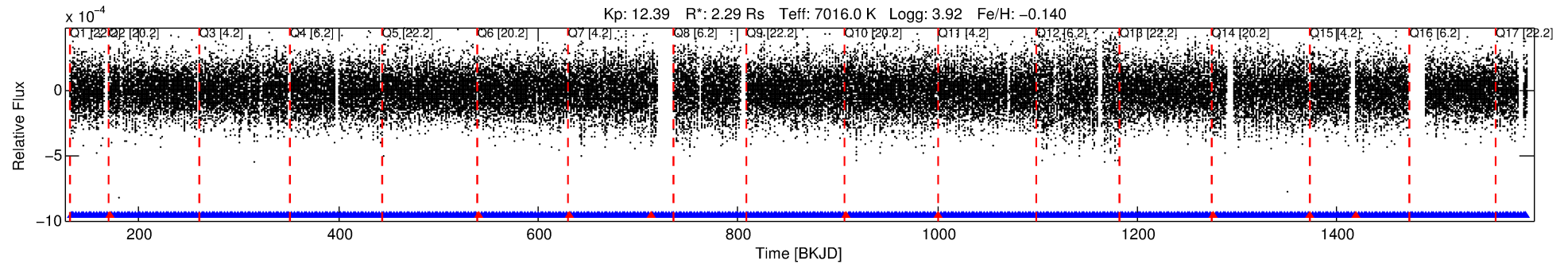
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011766996-01

No Significant Match Found

# DV One-Page Summary

KIC: 11766996 Candidate: 1 of 1 Period: 2.570 d



## DV Fit Results:

Period = 2.57011 [0.00005] d  
Epoch = 132.1524 [0.0102] BKJD  
Rp/R\* = 0.0036 [0.0022]  
a/R\* = 1.08 [0.56]  
b = 0.64 [3.33]  
Seff = 6183.60 [2607.52]  
Teq = 2261 [238] K  
Rp = 0.90 [0.61] Re  
a = 0.0428 [0.0113] AU  
Ag = 32.50 [42.02] [0.75σ]  
Teffp = 8347 [2580] K [2.35σ]

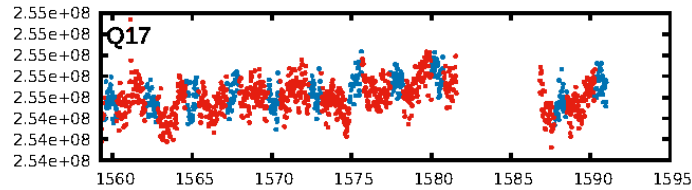
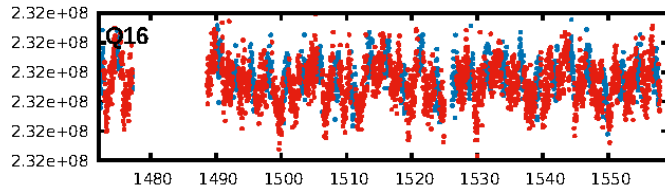
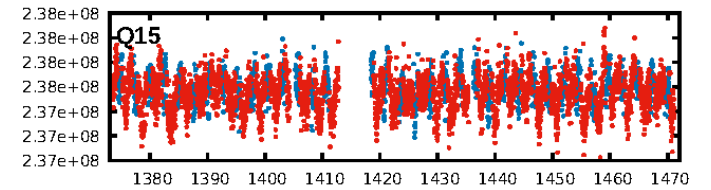
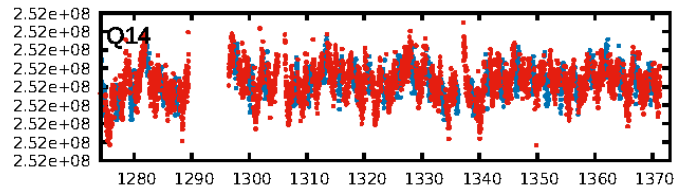
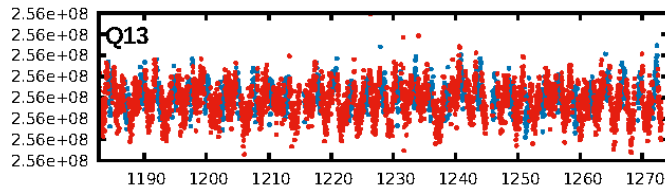
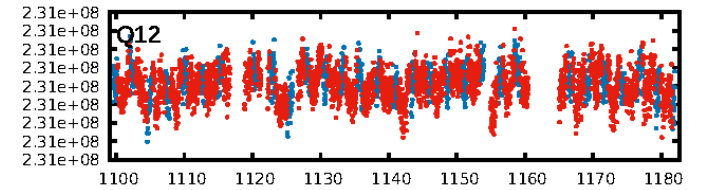
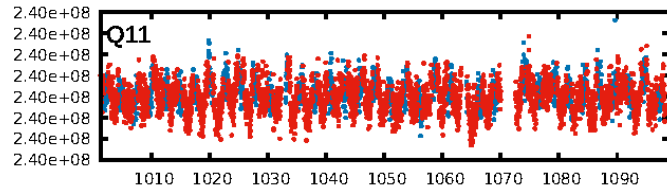
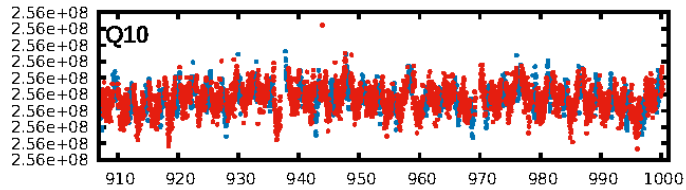
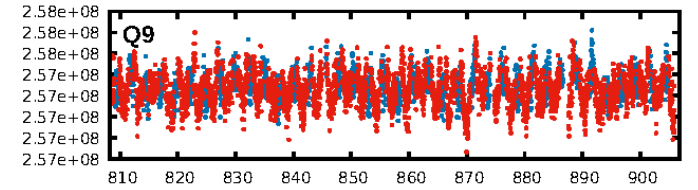
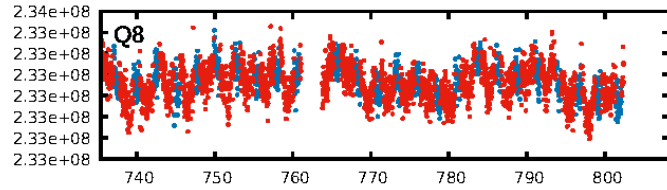
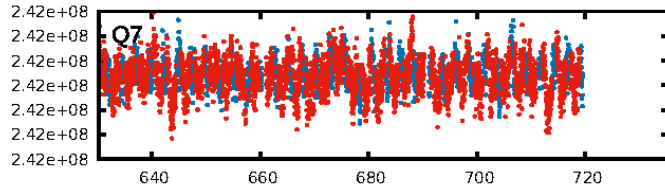
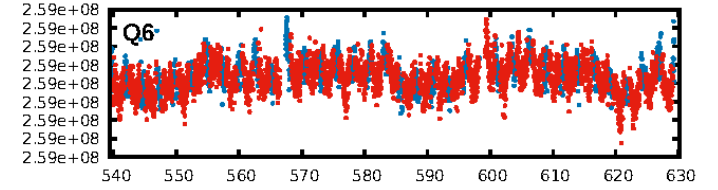
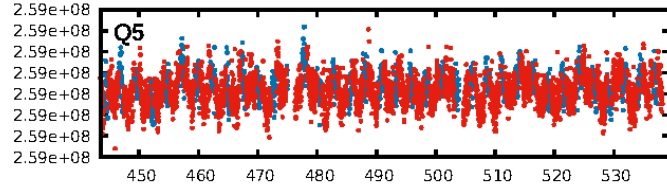
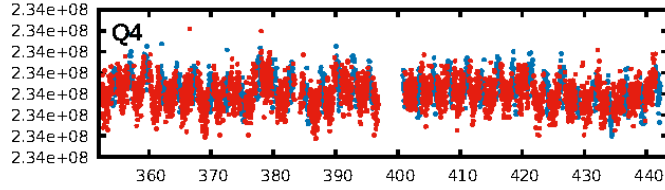
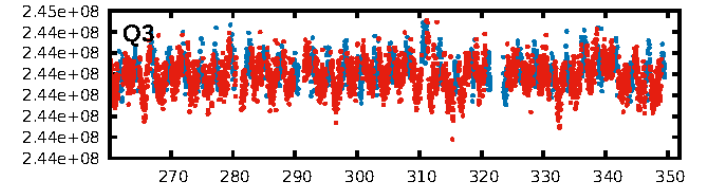
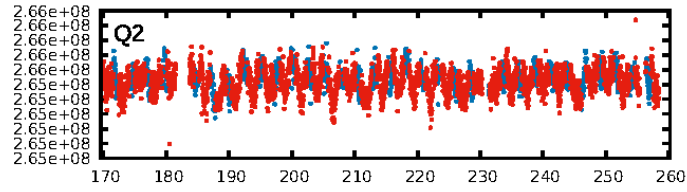
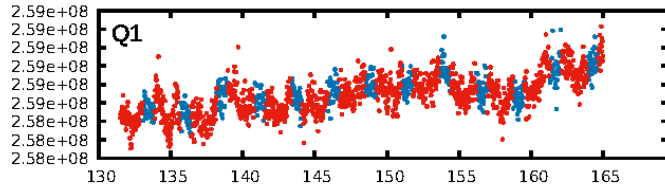
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 0.98 [508/517]  
GhostDiagnostic-chr: 1.986  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 1.100 arcsec [0.99σ]  
KicOffset-rm: 1.157 arcsec [1.05σ]  
OotOffset-st: 1/4/1/3 [9]  
KicOffset-st: 1/4/1/3 [9]  
DiffImageQuality-fgm: 0.67 [6/9]  
DiffImageOverlap-fno: 1.00 [17/17]

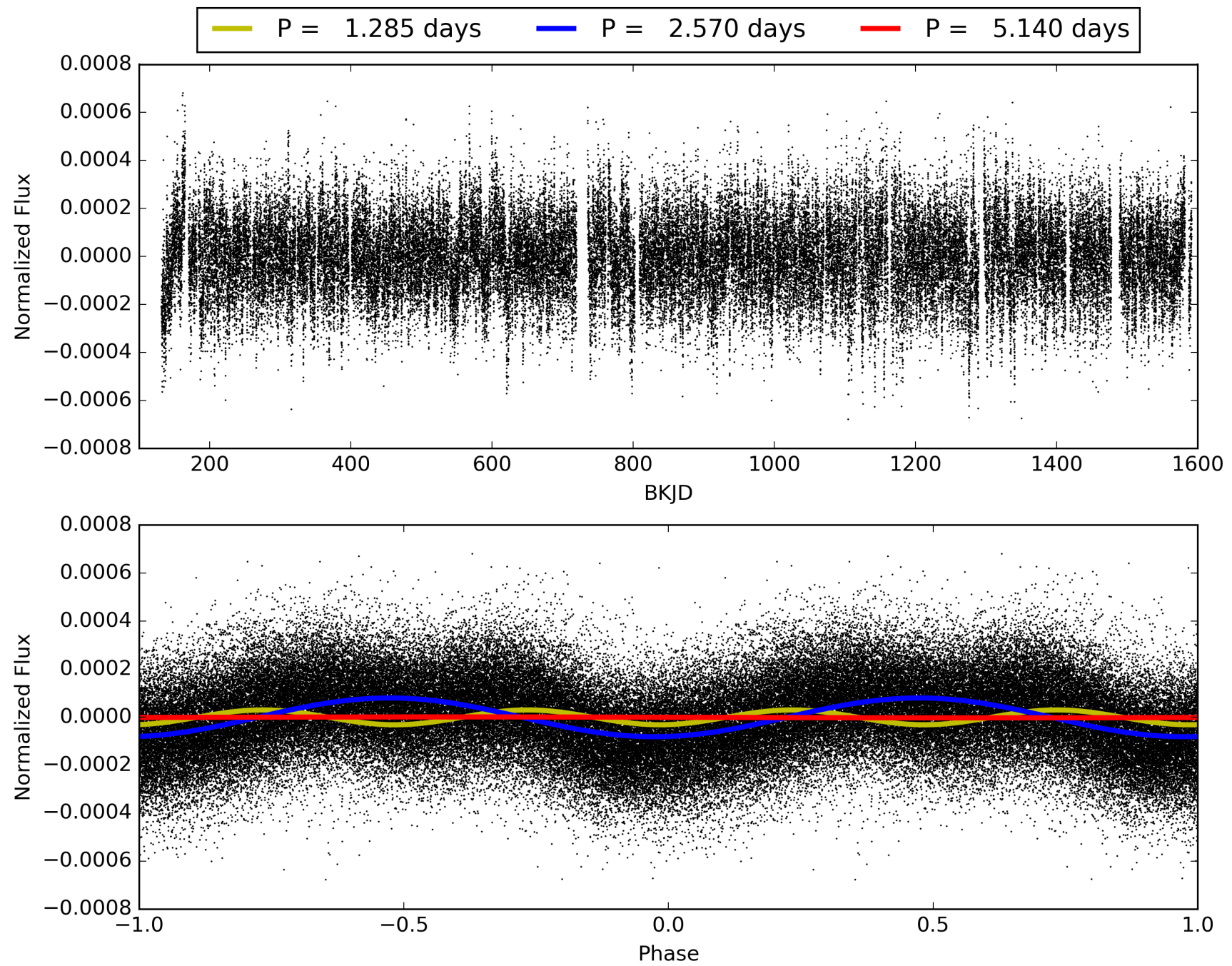
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 28-Jan-2016 23:28:29 Z

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

# TCE 011766996-01, PDC Light Curves



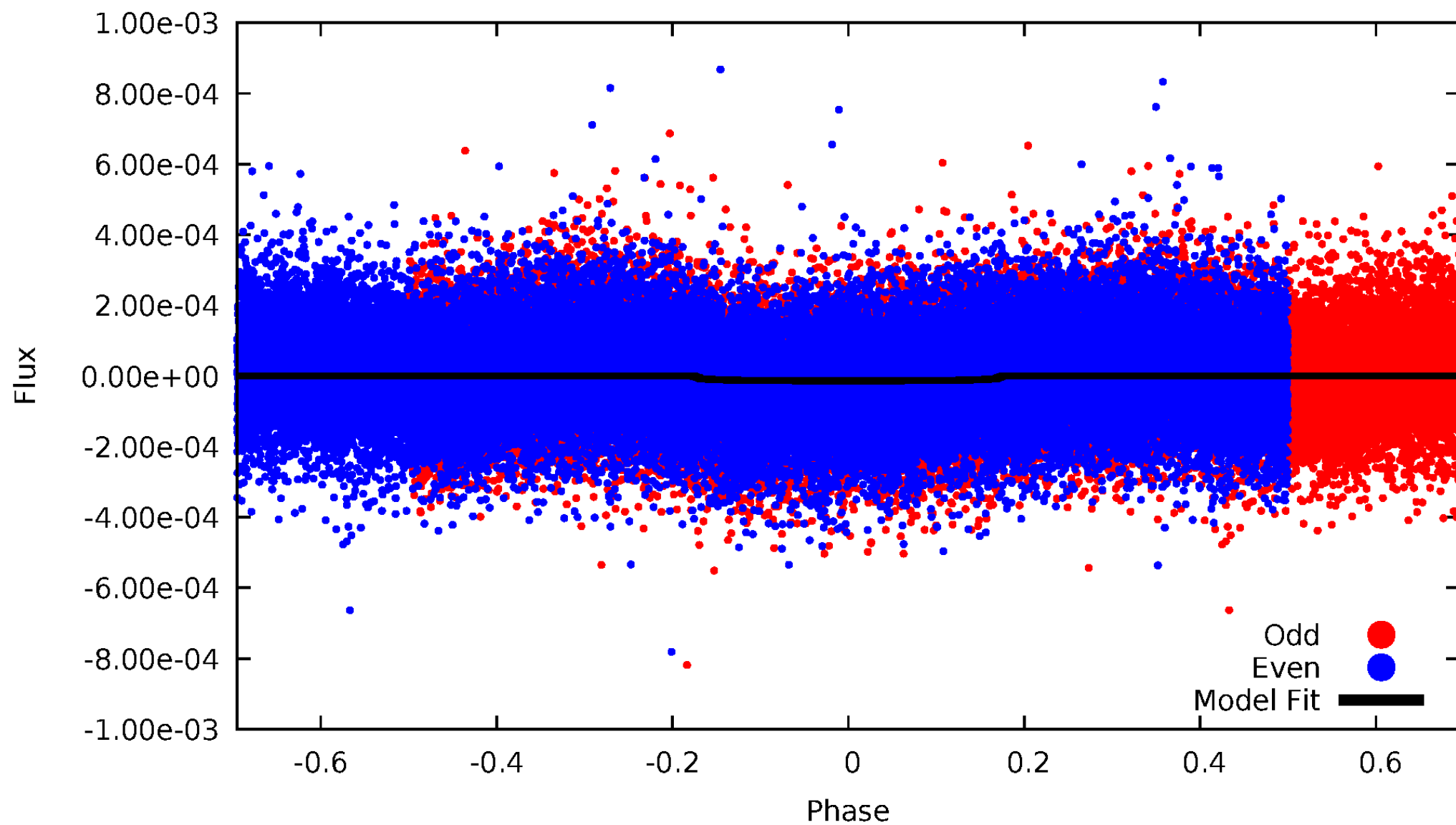
TCE 011766996-01





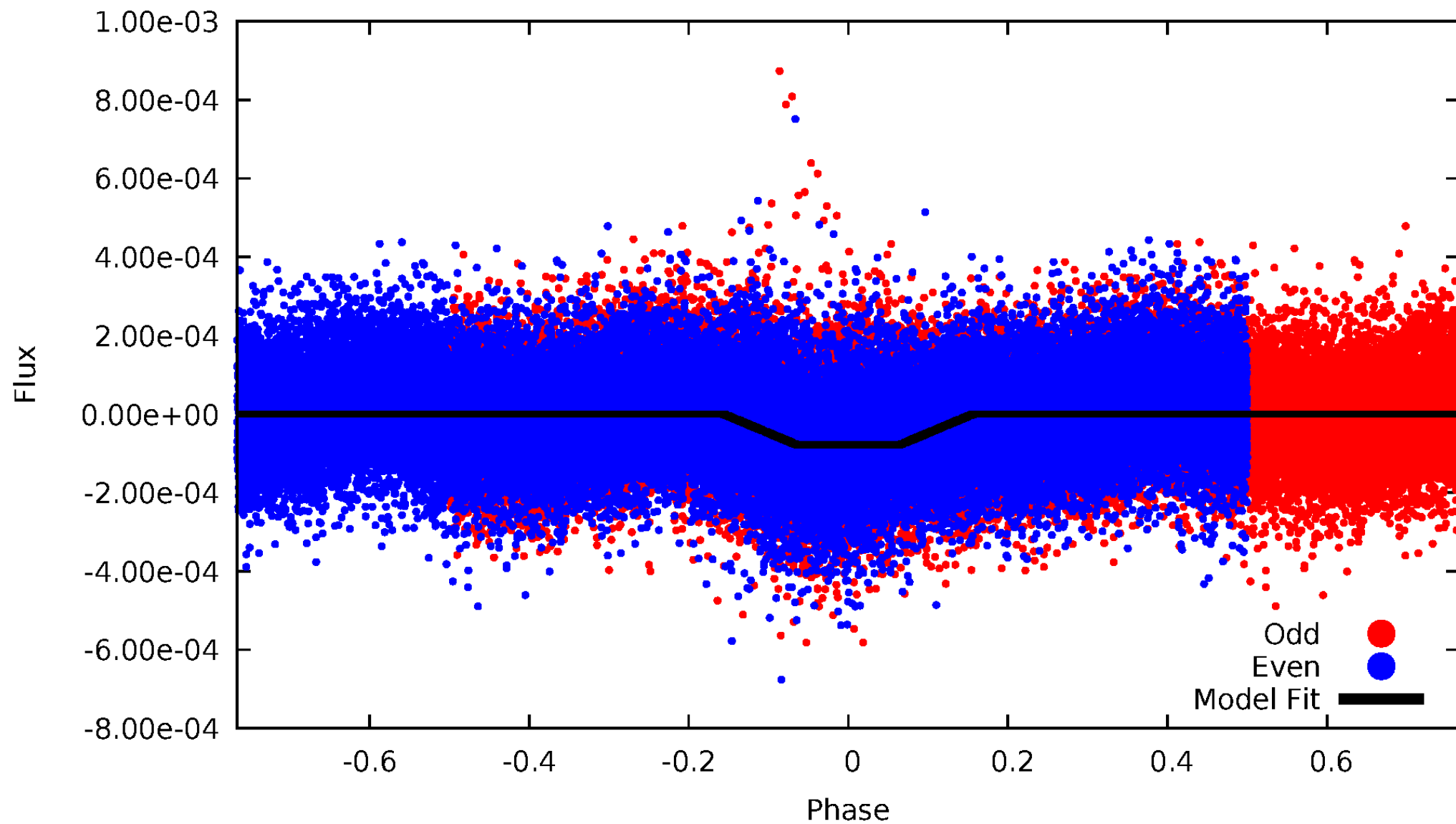
# DV Odd/Even

TCE 011766996-01



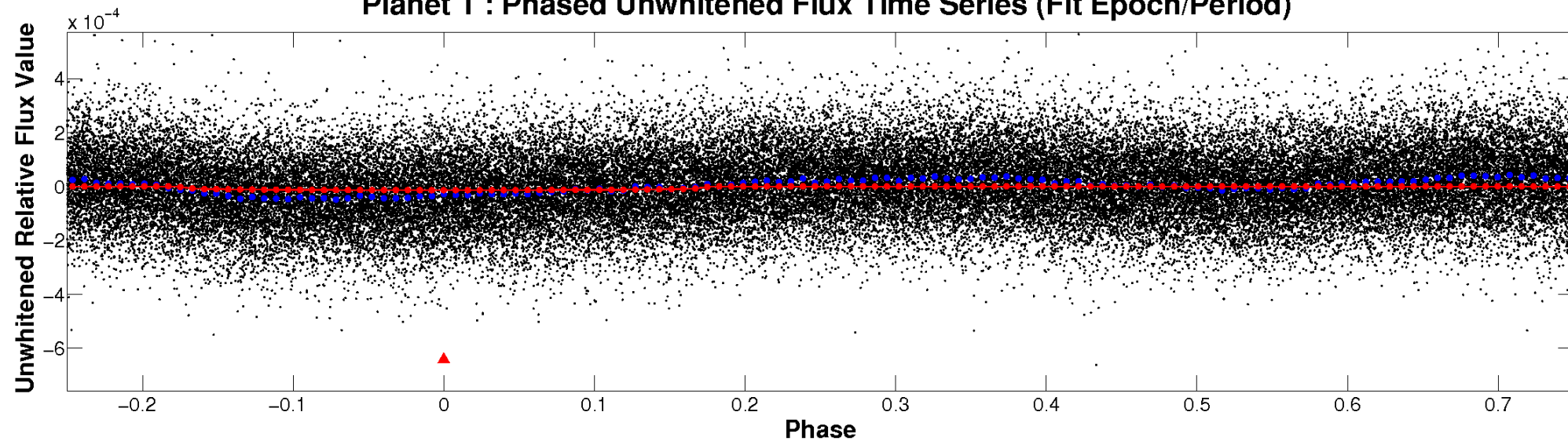
# ALT Odd/Even

TCE 011766996-01

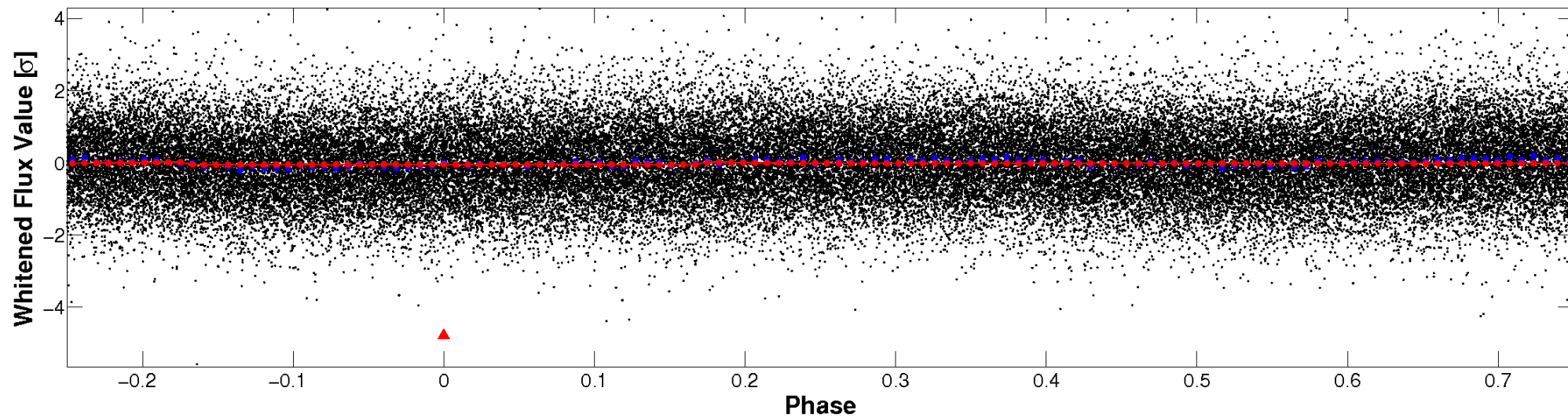


# Non-Whitened Vs. Whitened Light Curve

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

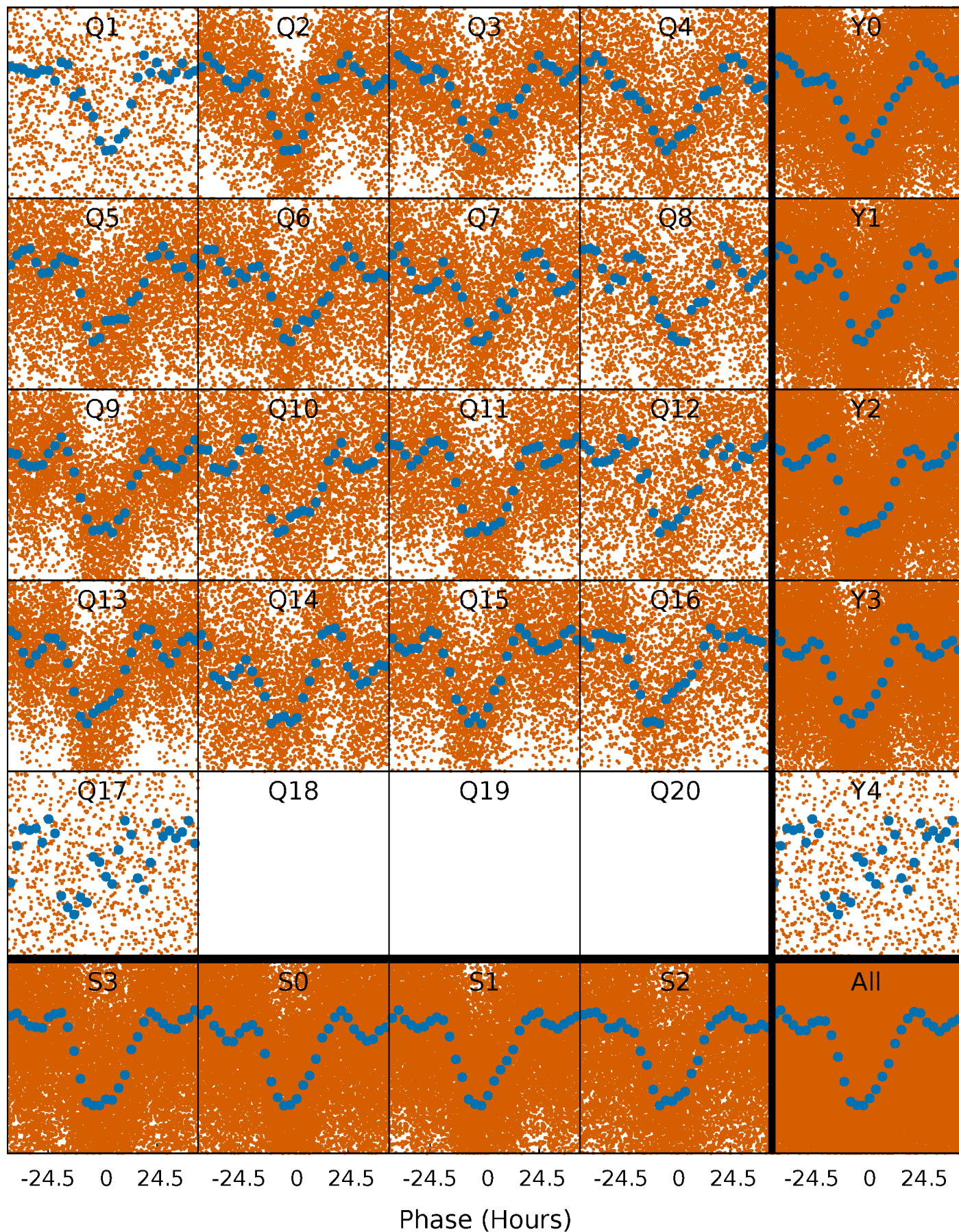


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

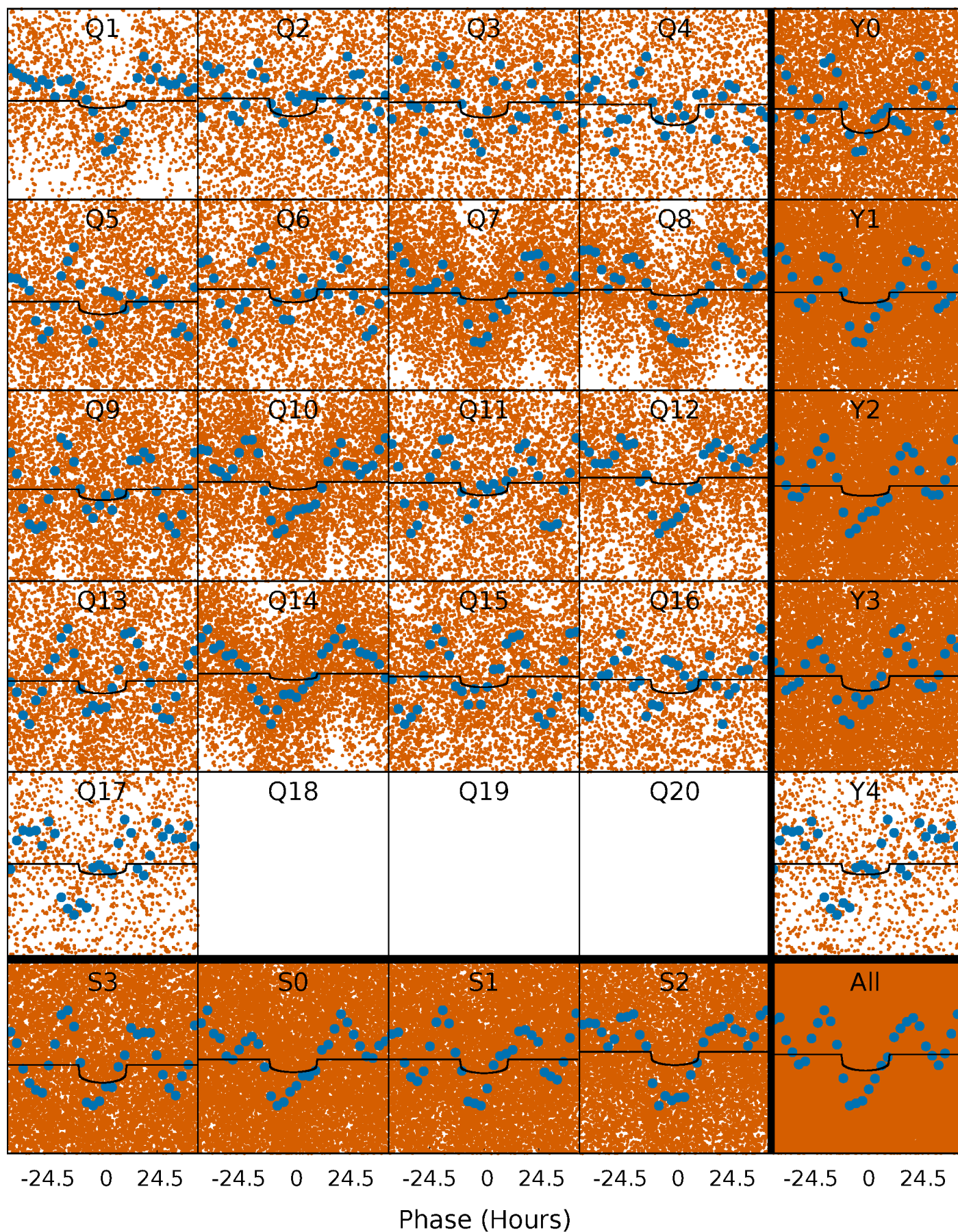
TCE 011766996-01 P= 2.570109 Days  $T_0=132.152355$  (BKJD)





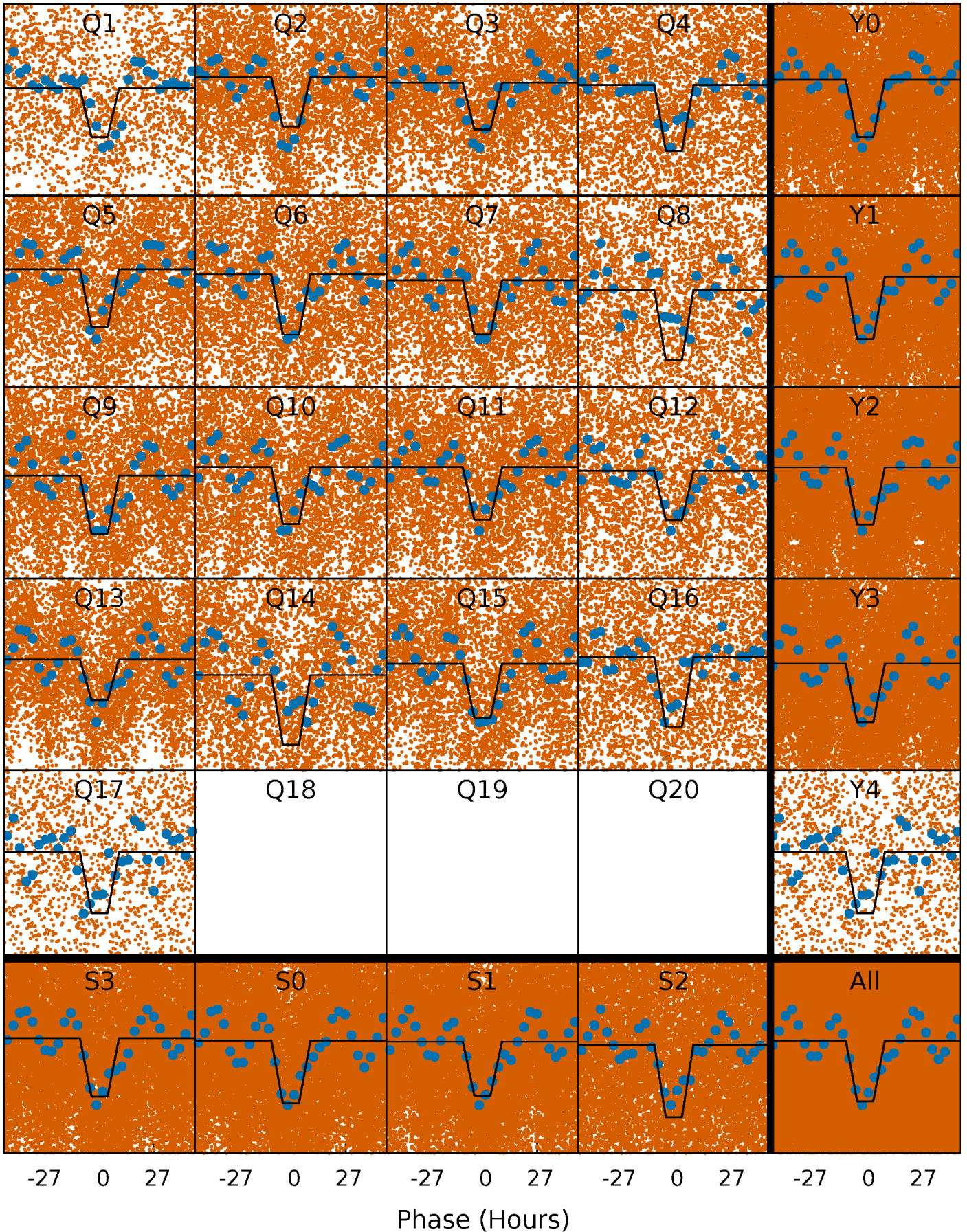
# DV Quarter-Phased Transit Curves

TCE 011766996-01 P= 2.570109 Days  $T_0=132.152355$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 011766996-01 P= 2.569488 Days  $T_0=132.145599$  (BKJD)

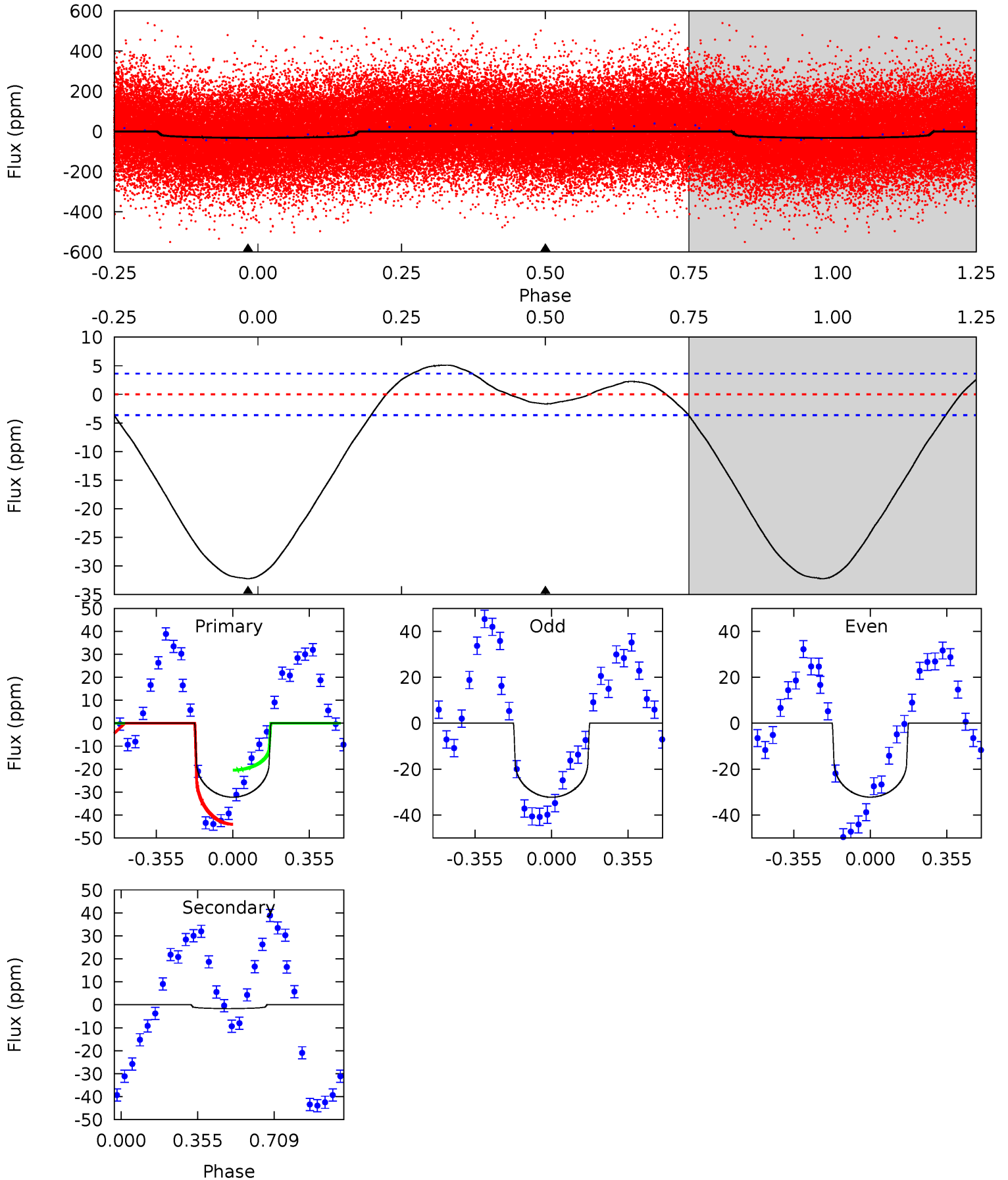




# DV Model-Shift Uniqueness Test

011766996-01, P = 2.570109 Days, E = 129.582246 Days

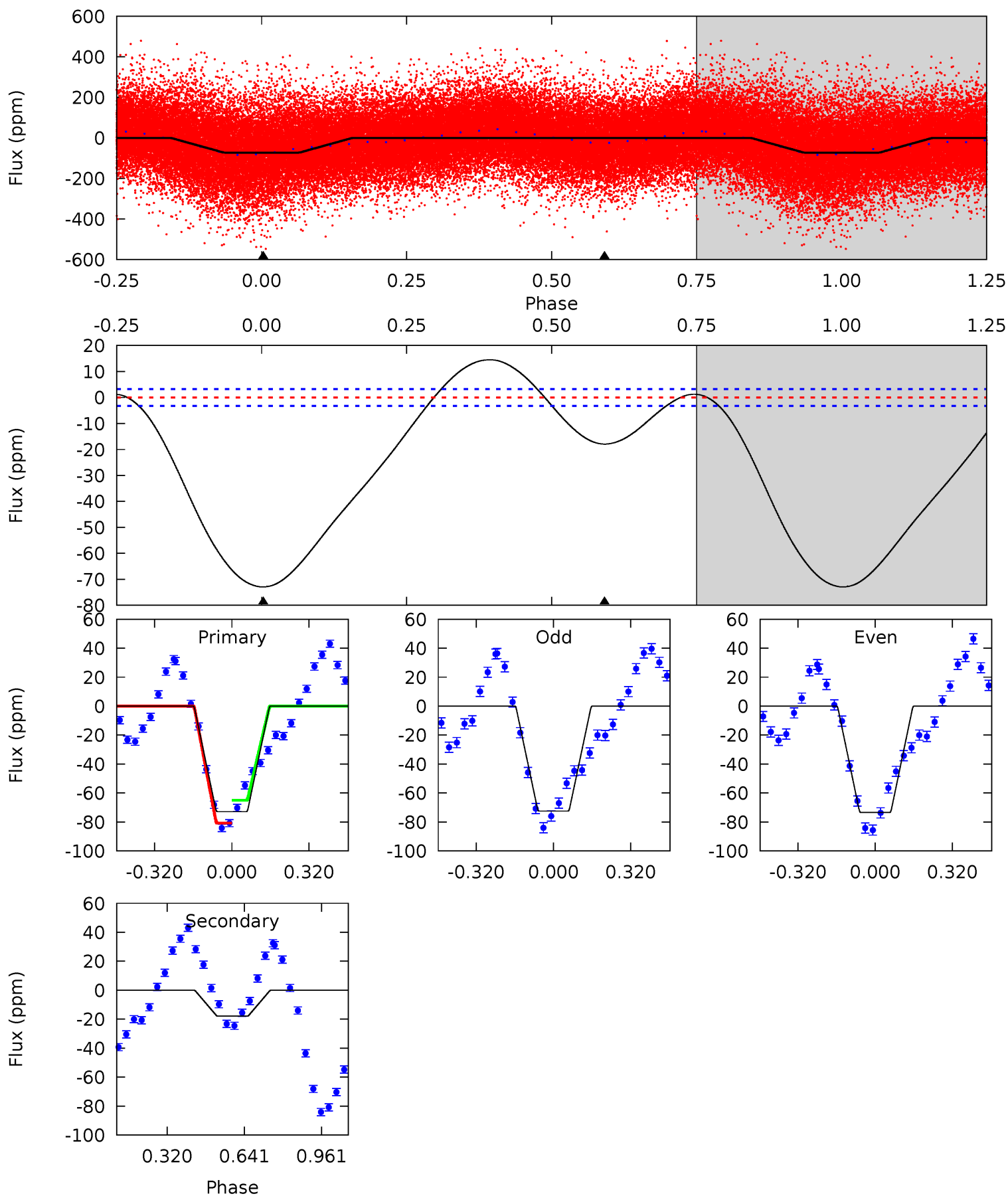
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
38.1	1.98	0	0	4.29	0.93	3.10	38.1	38.1	1.98	1.98	0.03	1.05	0.14	13.8



# Alt Model-Shift Uniqueness Test

011766996-01, P = 2.569488 Days, E = 129.576111 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
96.7	23.8	0	0	4.31	0.99	10.1	96.7	96.7	23.8	23.8	0.64	1.02	0.17	9.49





### Stellar Parameters For KIC 011766996

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$7016^{+169}_{-232}$	$3.920^{+0.227}_{-0.122}$	$-0.140^{+0.300}_{-0.300}$	$2.285^{+0.451}_{-0.676}$	$1.584^{+0.208}_{-0.278}$	$0.187^{+0.254}_{-0.069}$
	+2%/-3%	+6%/-3%	+214%/-214%	+20%/-30%	+13%/-18%	+136%/-37%
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 011766996-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-2 \pm 1$	$0.91^{+0.51}_{-0.52}$	$3116^{+191}_{-232}$	$4100^{+1915}_{-993}$	$1.911^{+9.189}_{-1.366}$
Alt.	$-18 \pm 1$	$2.14^{+0.65}_{-0.58}$	$3131^{+197}_{-236}$	$4820^{+752}_{-463}$	$3.921^{+3.488}_{-1.617}$

$T_{\text{max}}$  = 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

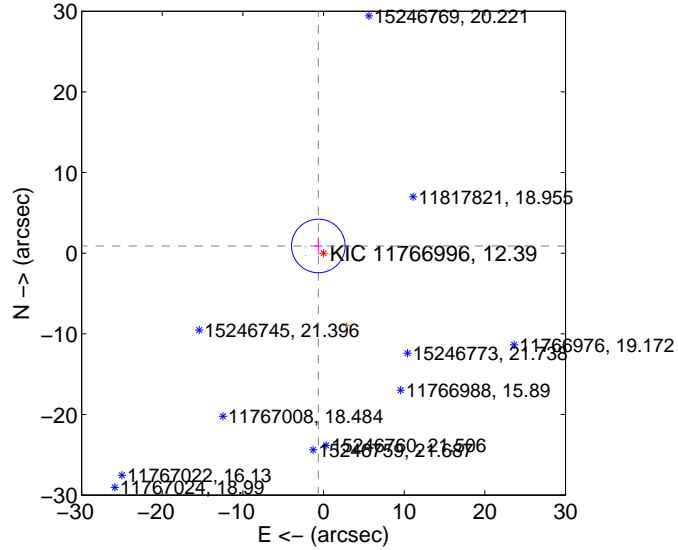
Supplemental centroid analysis for 011766996-01. Kepler magnitude: 12.39. Transit SNR 7.75

There are 6 quarters with good PRF difference image offsets

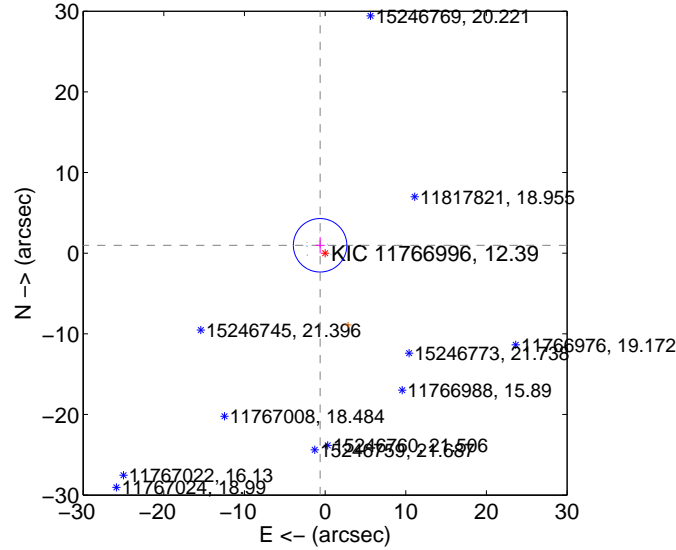
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.100 \pm 1.107$	0.99	$0.644 \pm 0.541$	$0.892 \pm 1.055$
PRF-fit source offset from KIC position	$1.157 \pm 1.105$	1.05	$0.622 \pm 0.570$	$0.976 \pm 1.016$
photometric centroid source offset	—	—	—	—

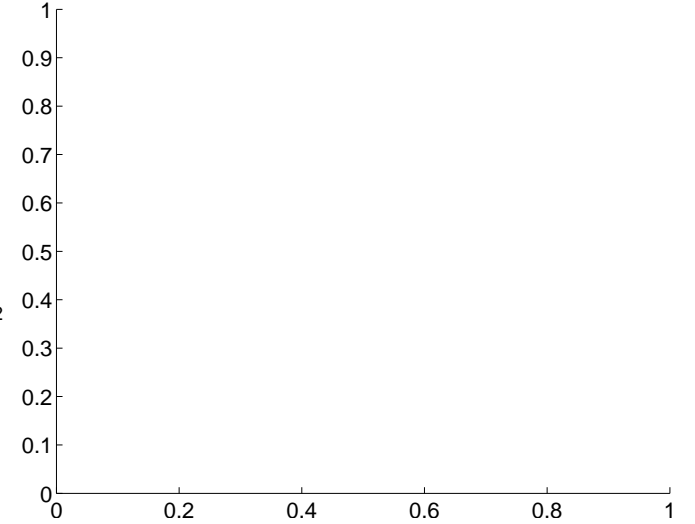
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

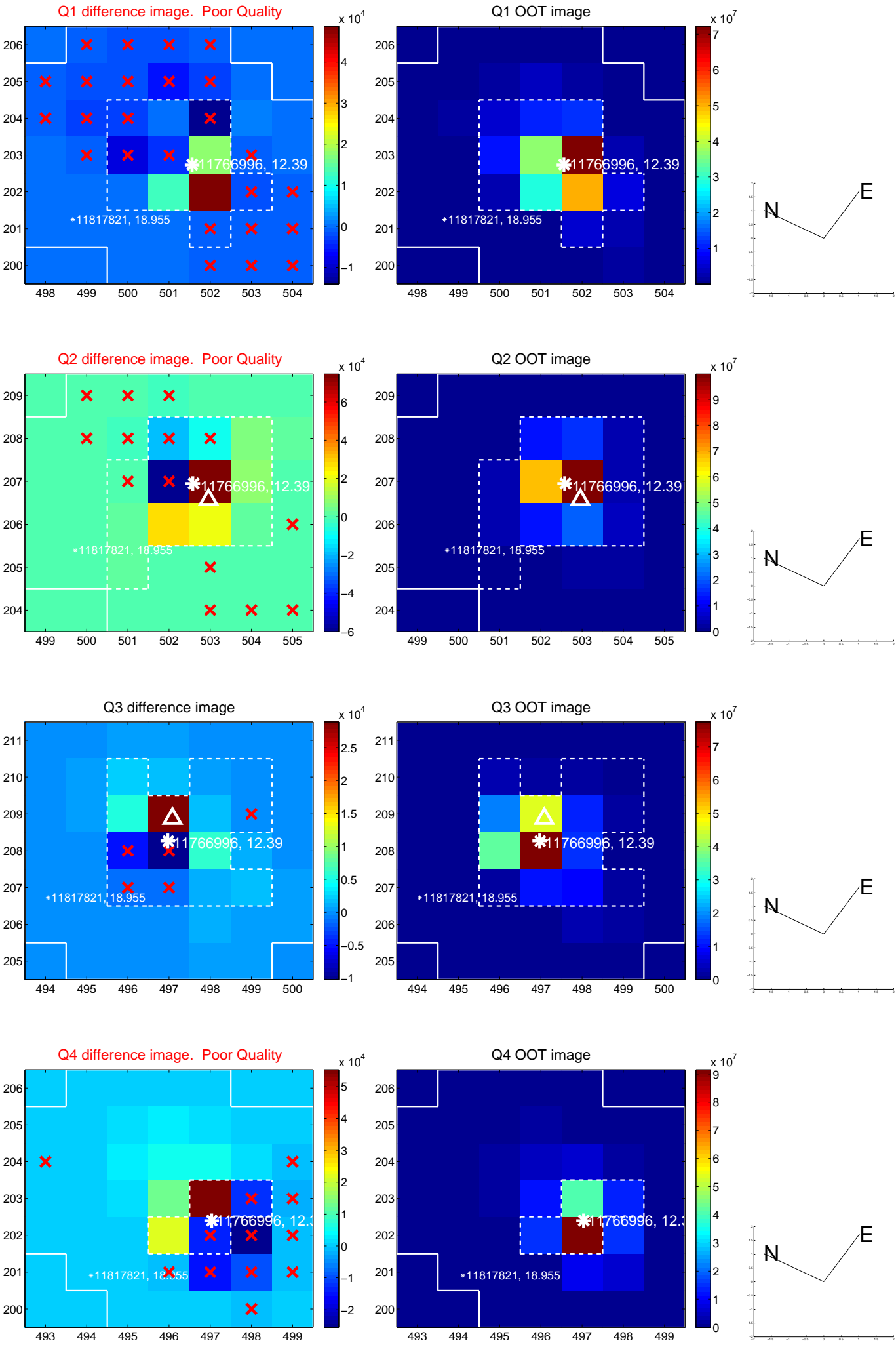


There are no photometric centroids

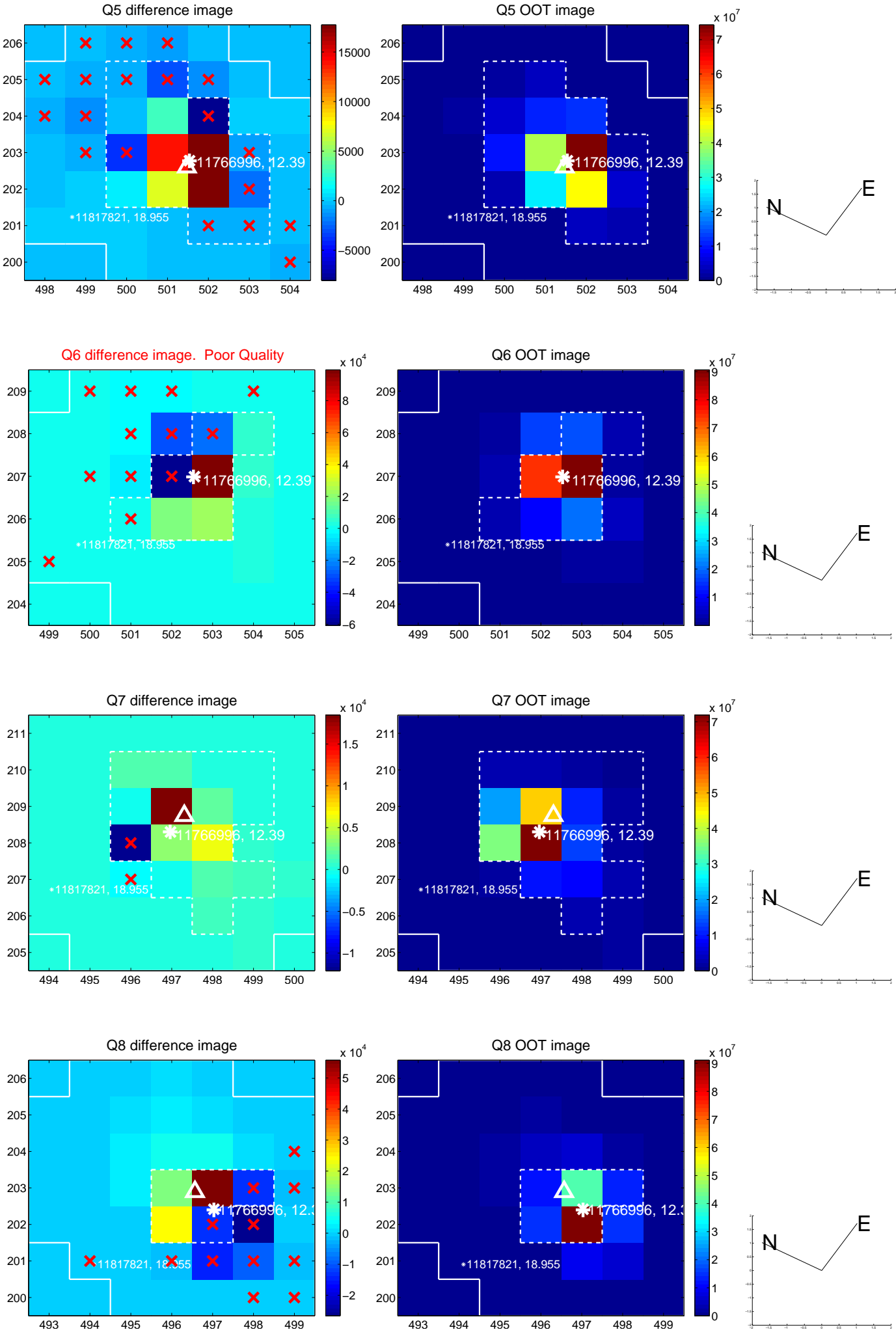


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

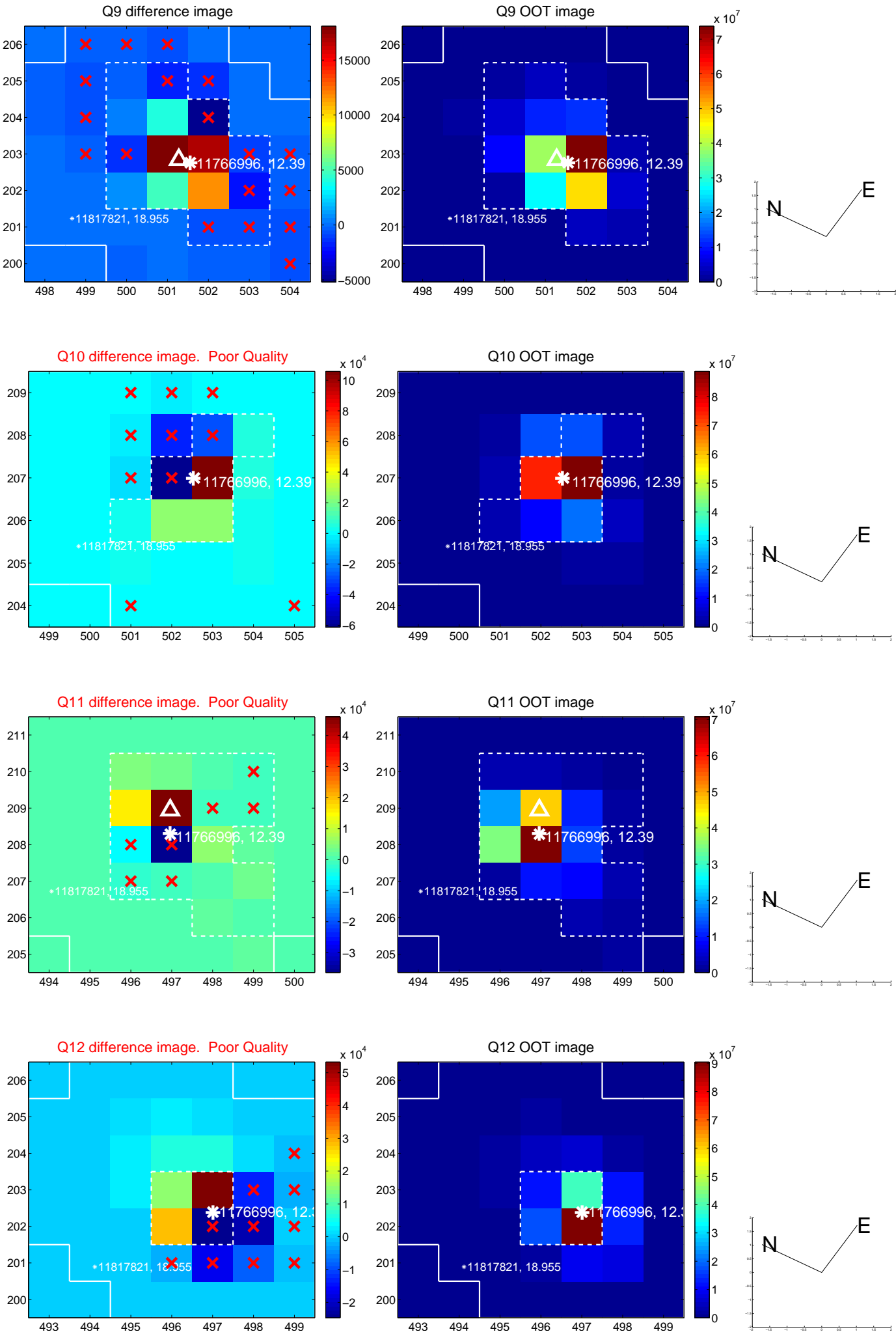


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

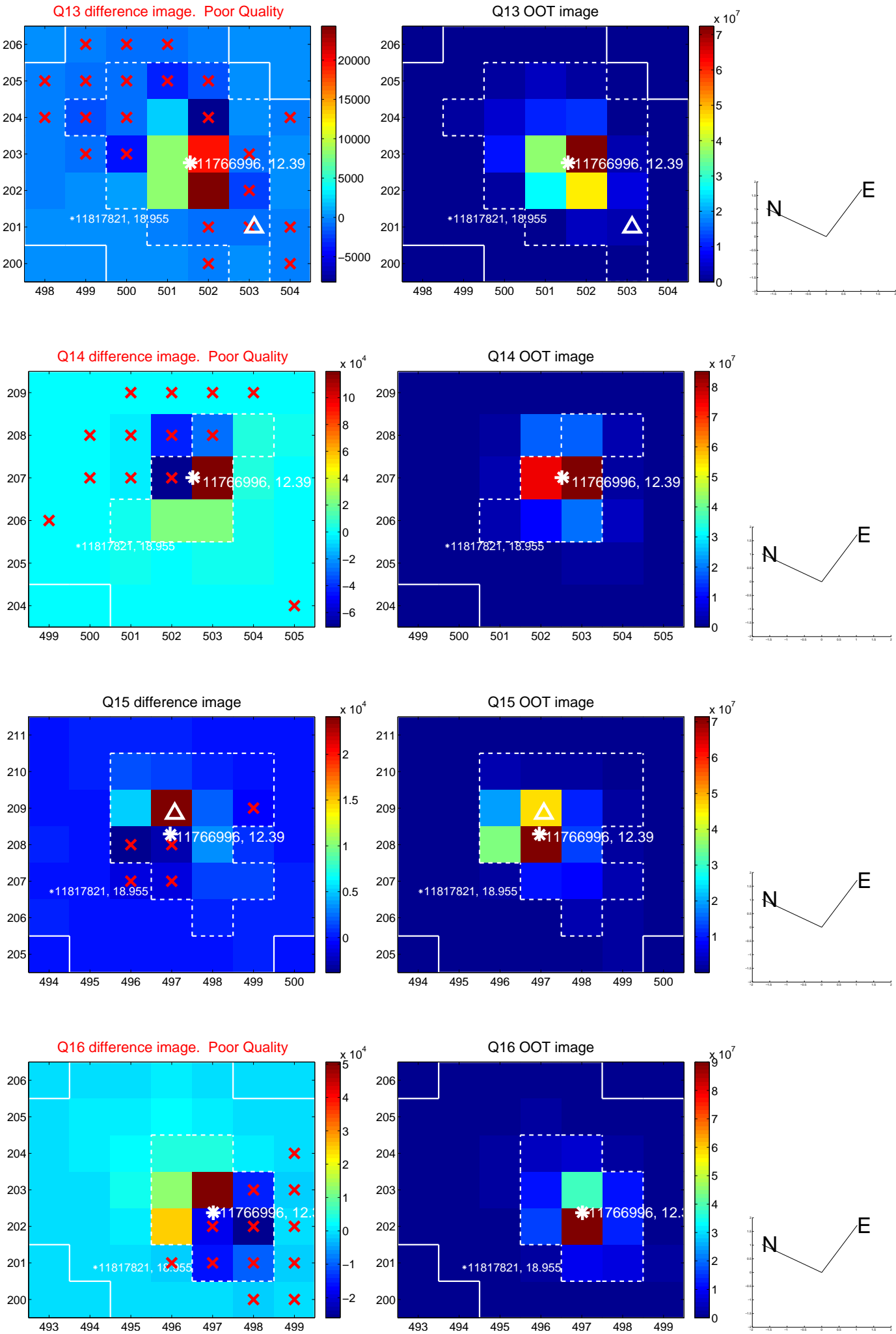




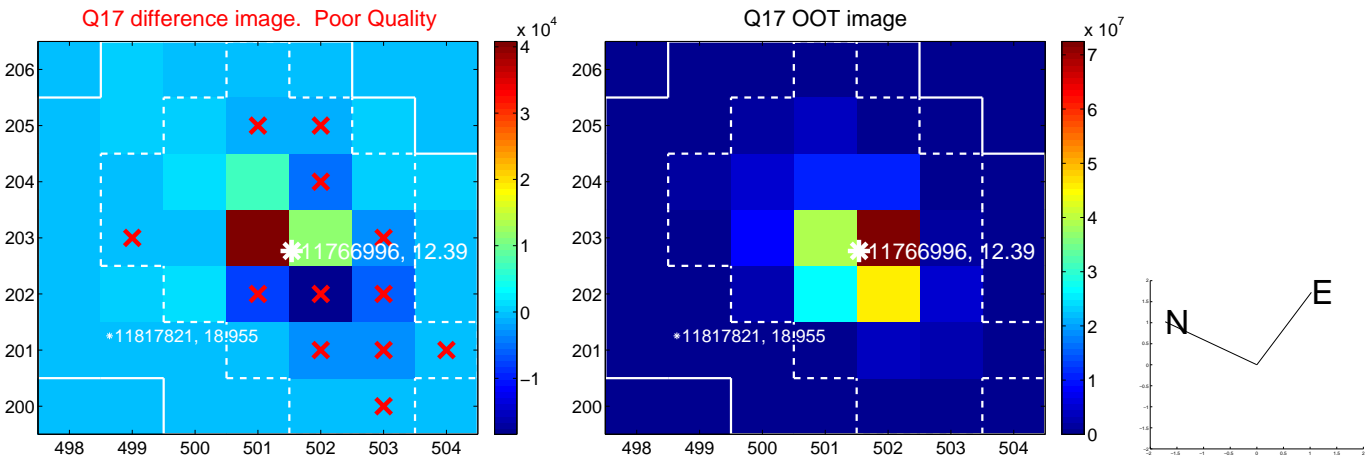
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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.



folded centroid time series figure for this object.

UKIRT Image

Declination

