

# KIC 011021188

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011021188-01	OBS	No	0.988081	131.682246	33.5	8.685	12.7	16.4	1.58	7547	1.84	15196.36

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011021188-01	OBS	FP	0.00	1	0	0	0	LPP_DV—LPP_ALT—CENT_SATURATED

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

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

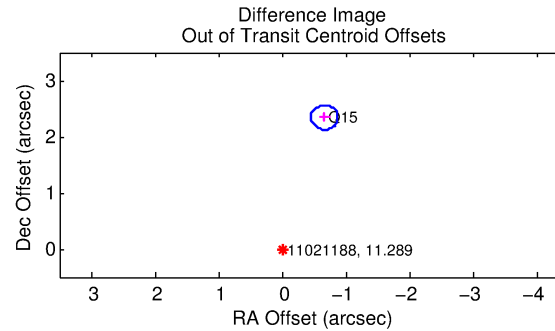
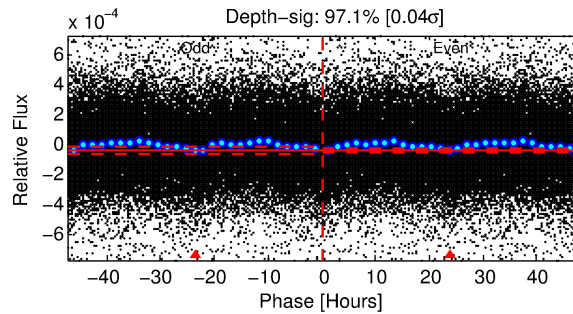
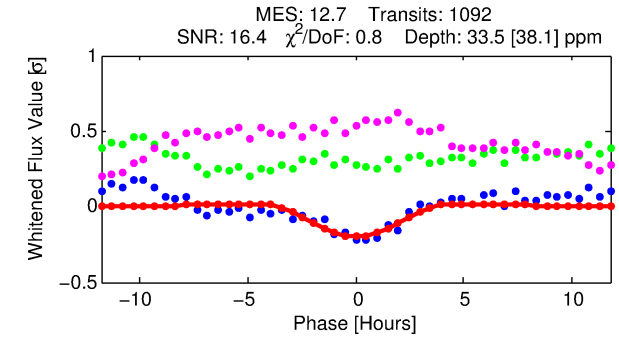
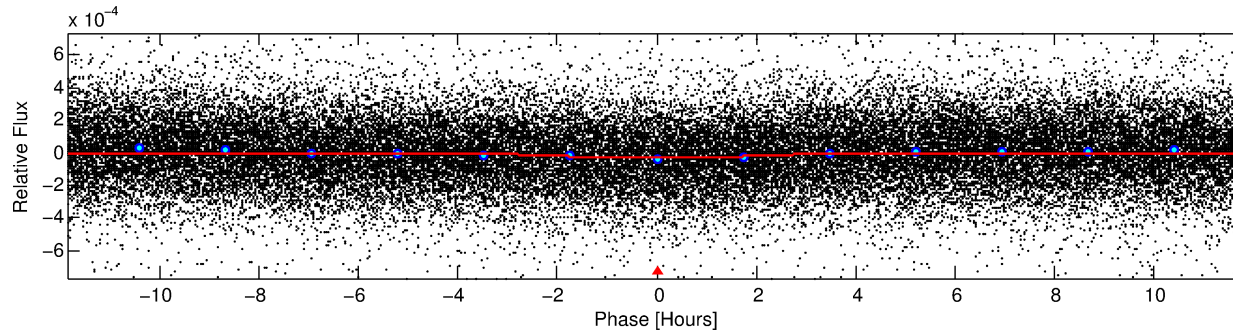
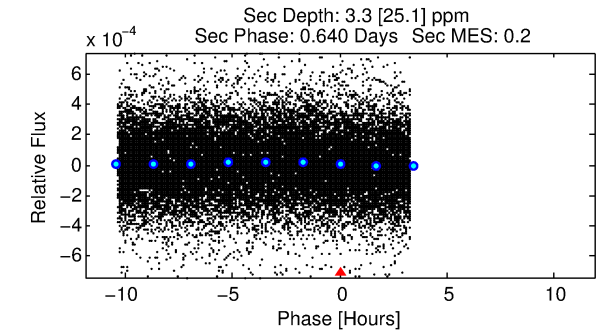
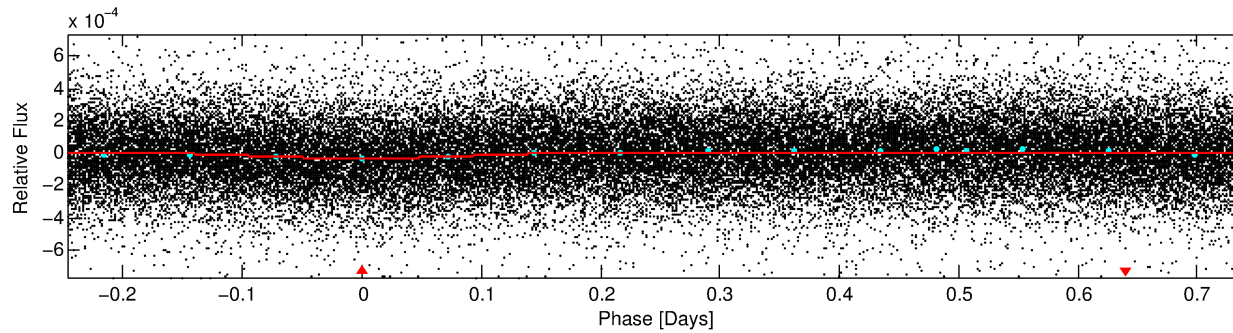
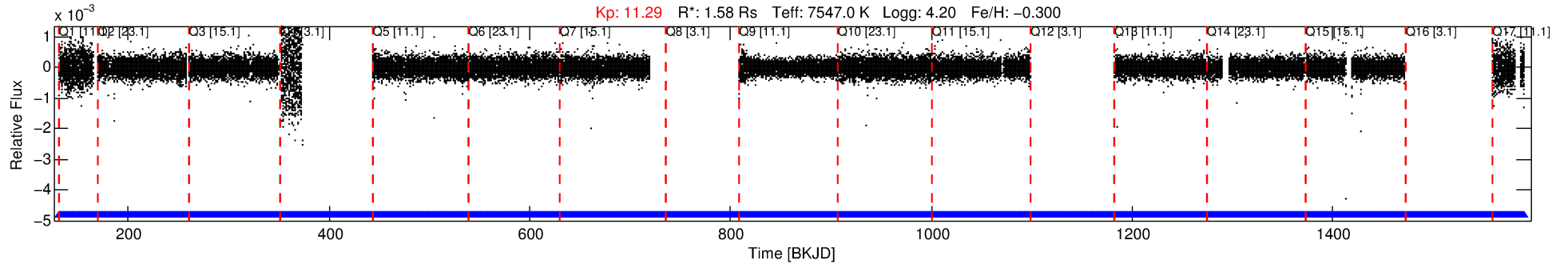
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011021188-01

No Significant Match Found

# DV One-Page Summary

KIC: 11021188 Candidate: 1 of 1 Period: 0.988 d



## DV Fit Results:

Period = 0.98808 [0.00001] d  
Epoch = 131.6822 [0.0082] BKJD  
Rp/R\* = 0.0107 [0.0170]  
a/R\* = 1.01 [0.01]  
b = 1.00 [0.02]  
Seff = 15196.36 [6004.49]  
Teq = 2831 [280] K  
Rp = 1.84 [2.99] Re  
a = 0.0219 [0.0057] AU  
Ag = 0.26 [2.11] [-0.35σ]  
Teff = 3117 [6379] K [0.04σ]

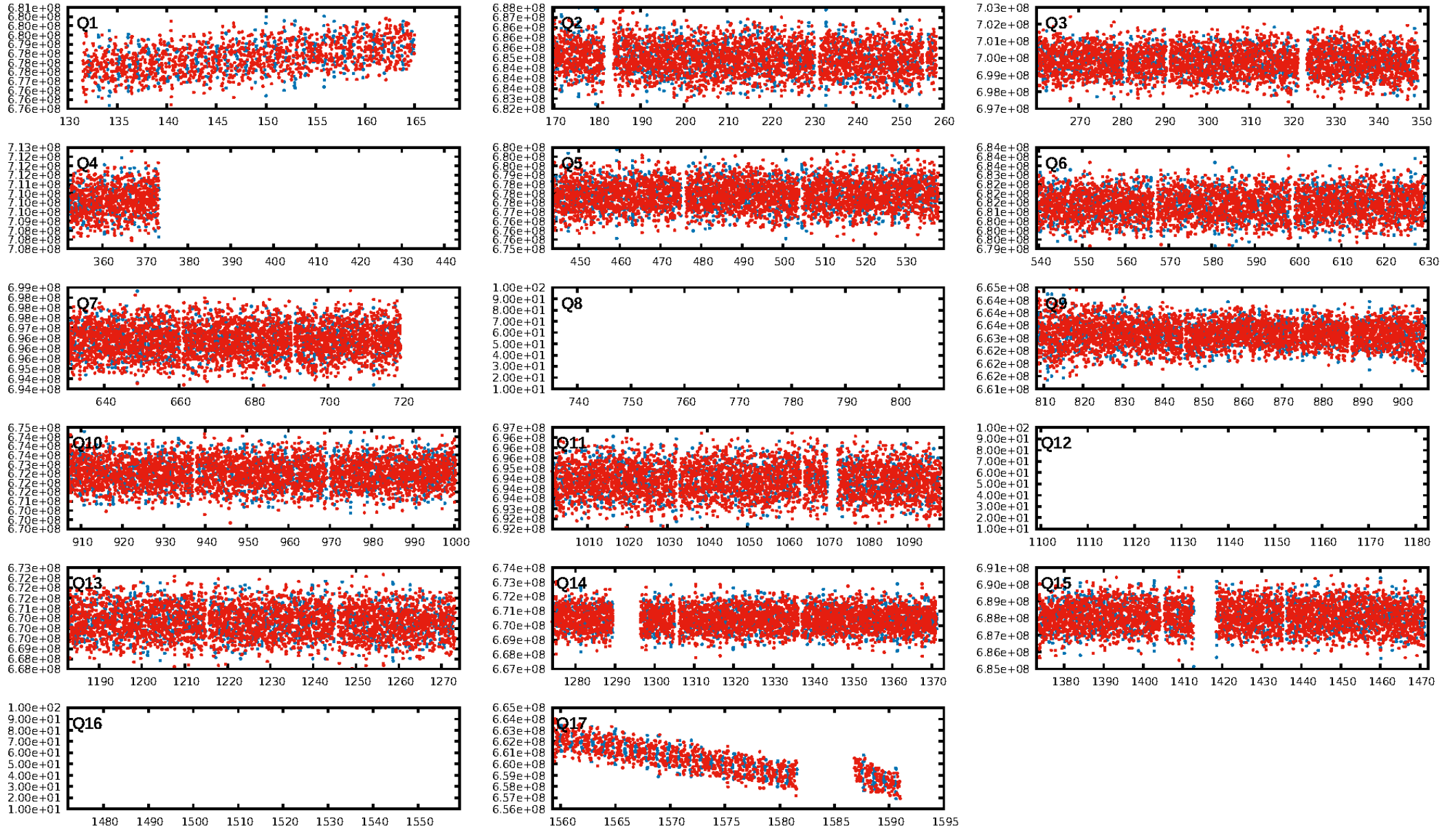
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1009/1009]  
GhostDiagnostic-chr: 4.708  
Centroid-sig: 0.2%  
Centroid-so: 0.599 arcsec [1.93σ]  
OotOffset-rm: 2.434 arcsec [33.99σ]  
KicOffset-rm: 2.601 arcsec [36.32σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 1.00 [1/1]  
DiffImageOverlap-fno: 1.00 [14/14]

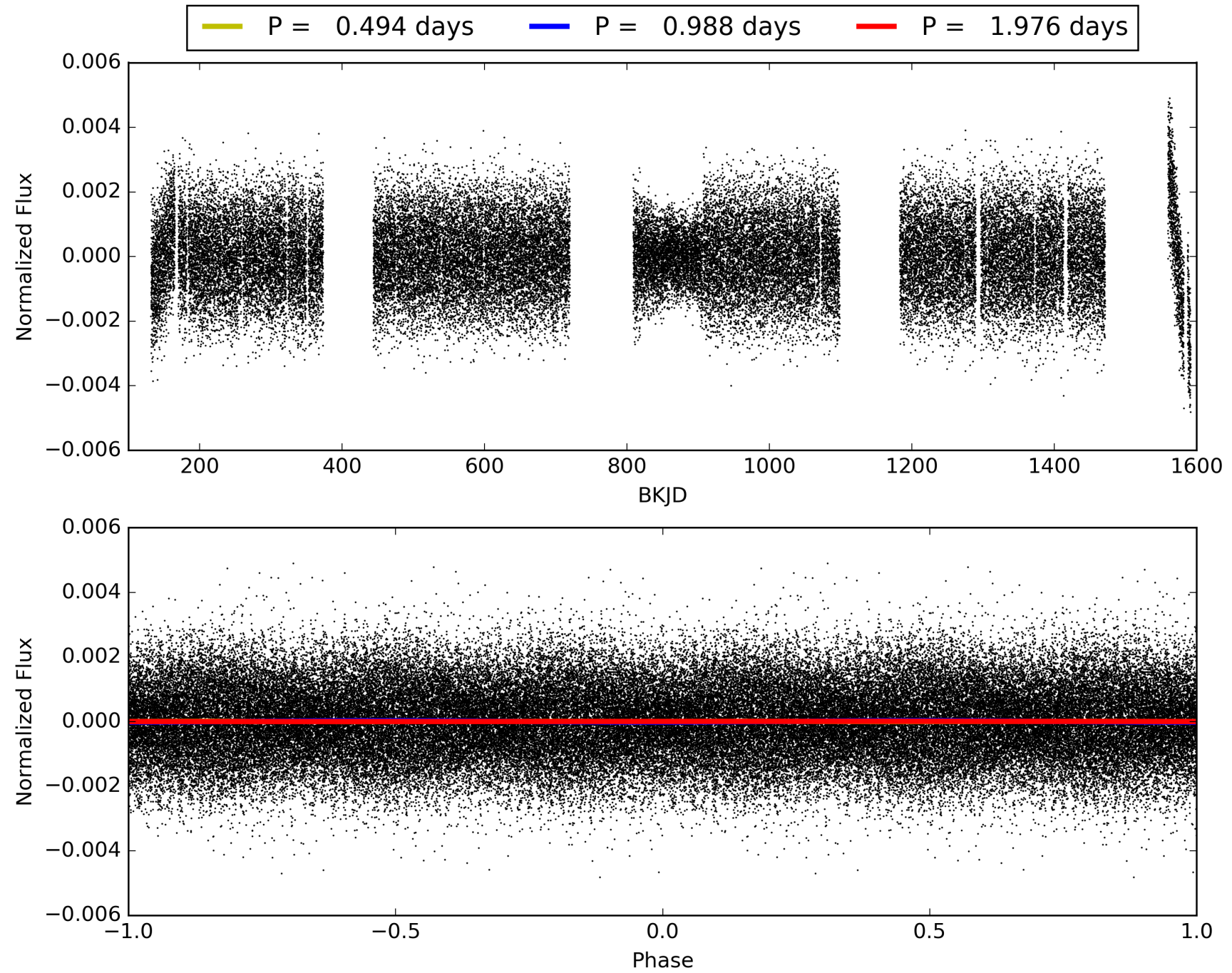
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 29-Jan-2016 16:27:53 Z

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

# TCE 011021188-01, PDC Light Curves

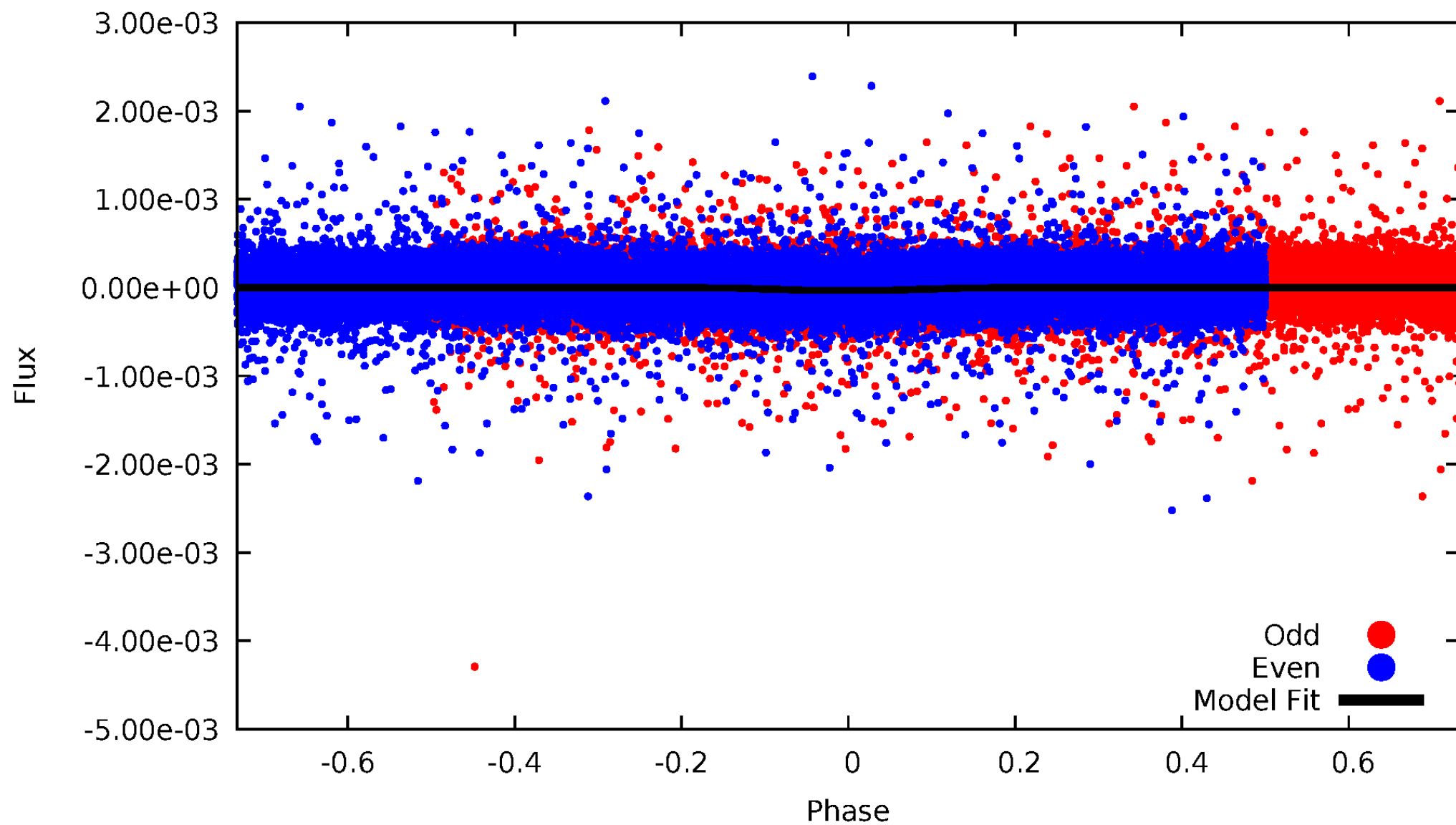


# TCE 011021188-01



# DV Odd/Even

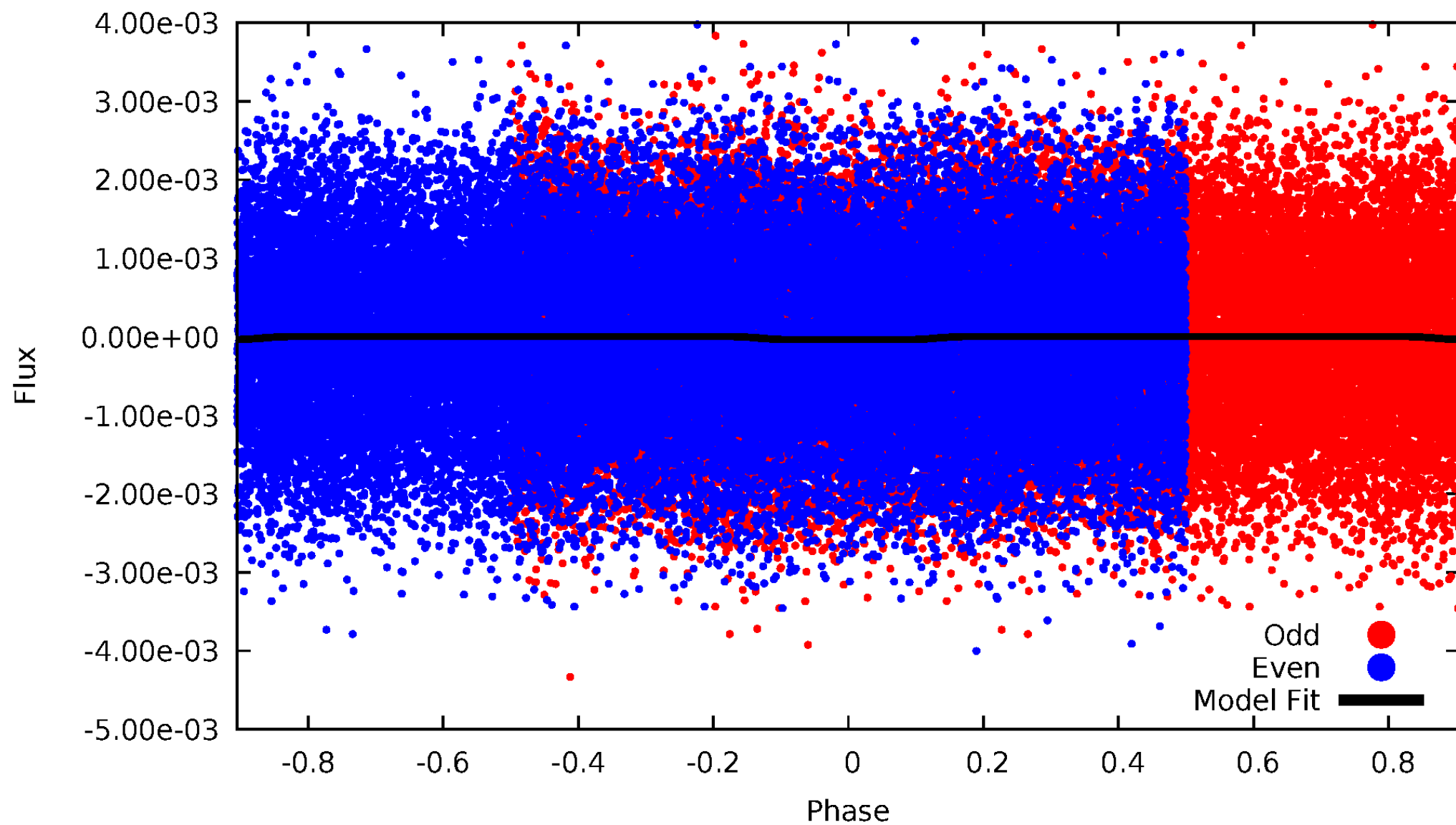
TCE 011021188-01



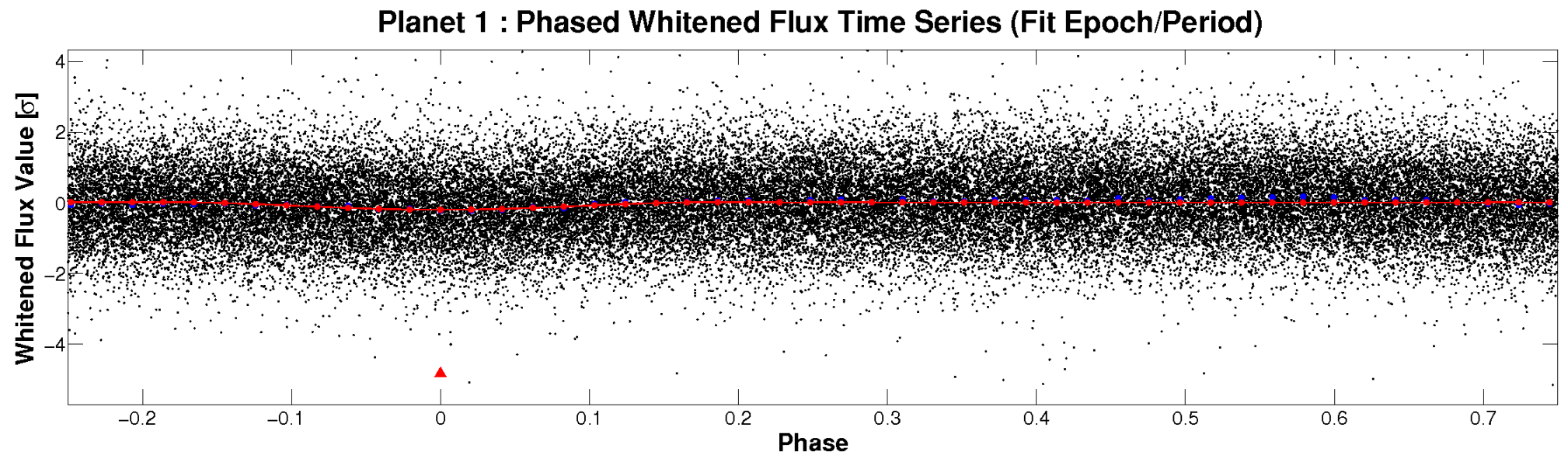
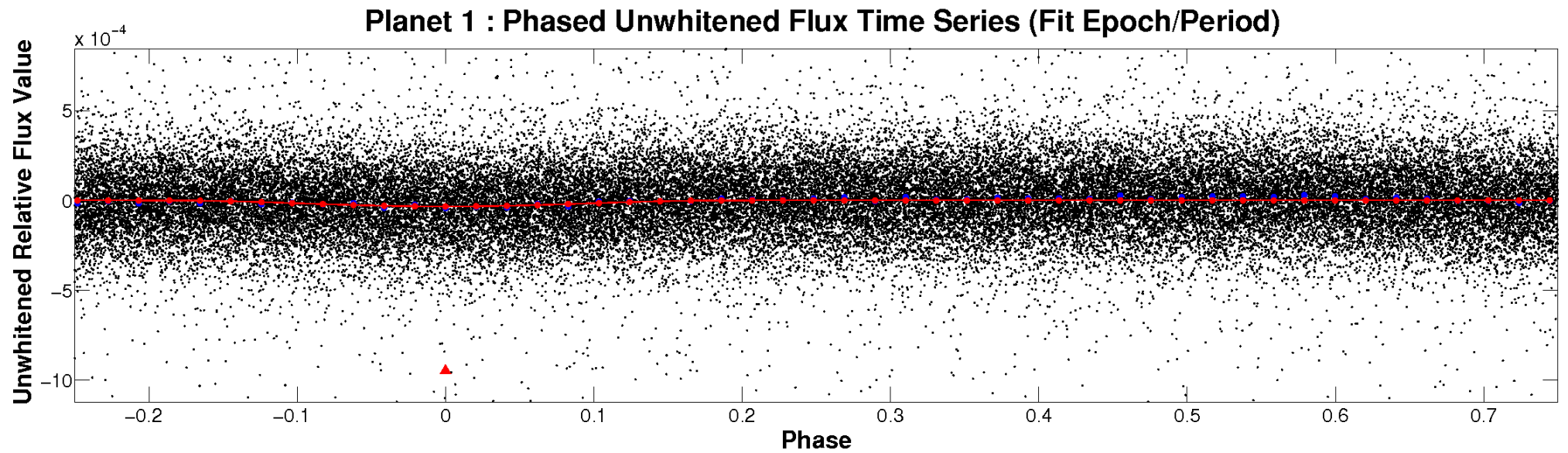


# ALT Odd/Even

TCE 011021188-01

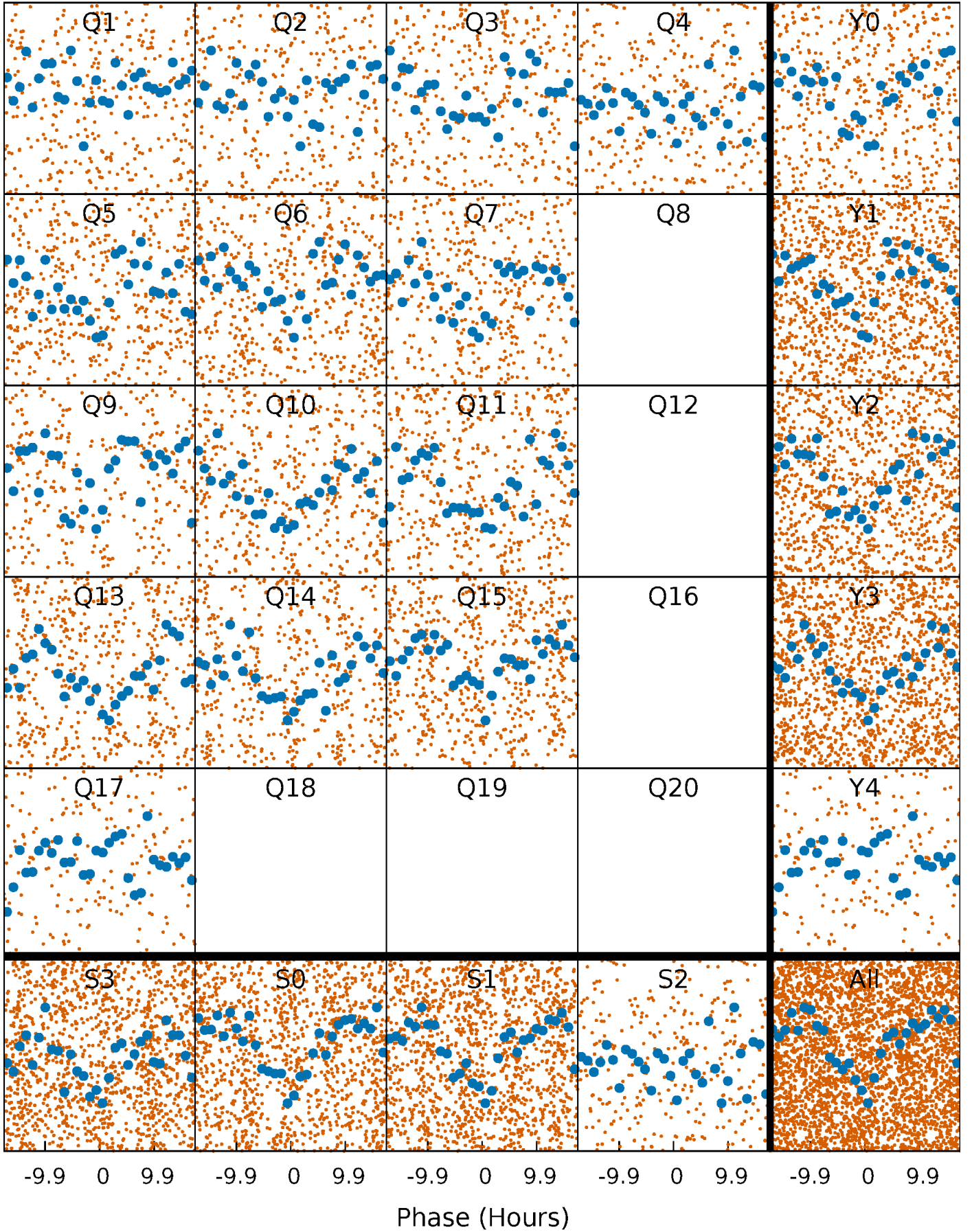


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

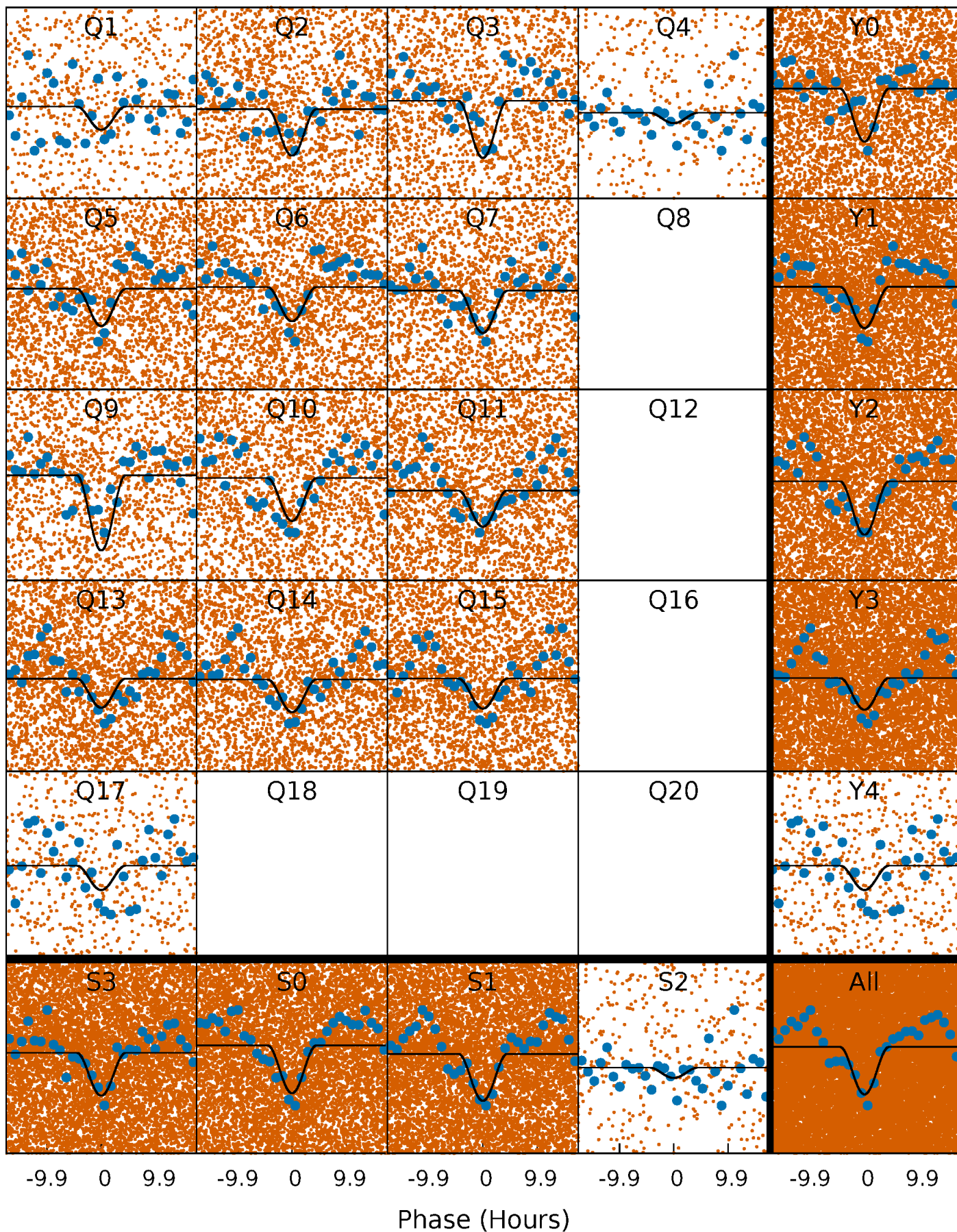
TCE 011021188-01   P= 0.988081 Days    $T_0=131.682246$  (BKJD)





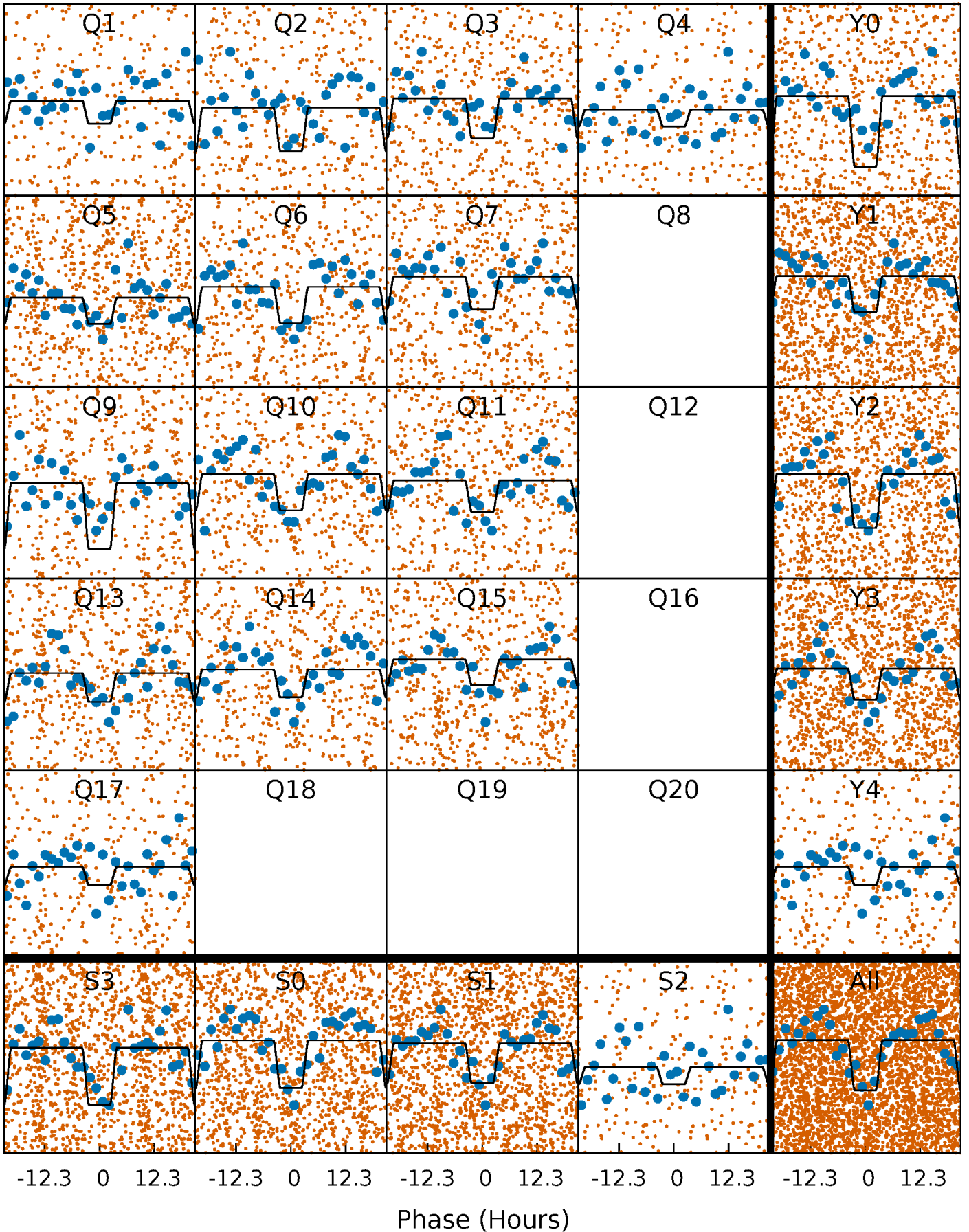
# DV Quarter-Phased Transit Curves

TCE 011021188-01 P= 0.988081 Days  $T_0=131.682246$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

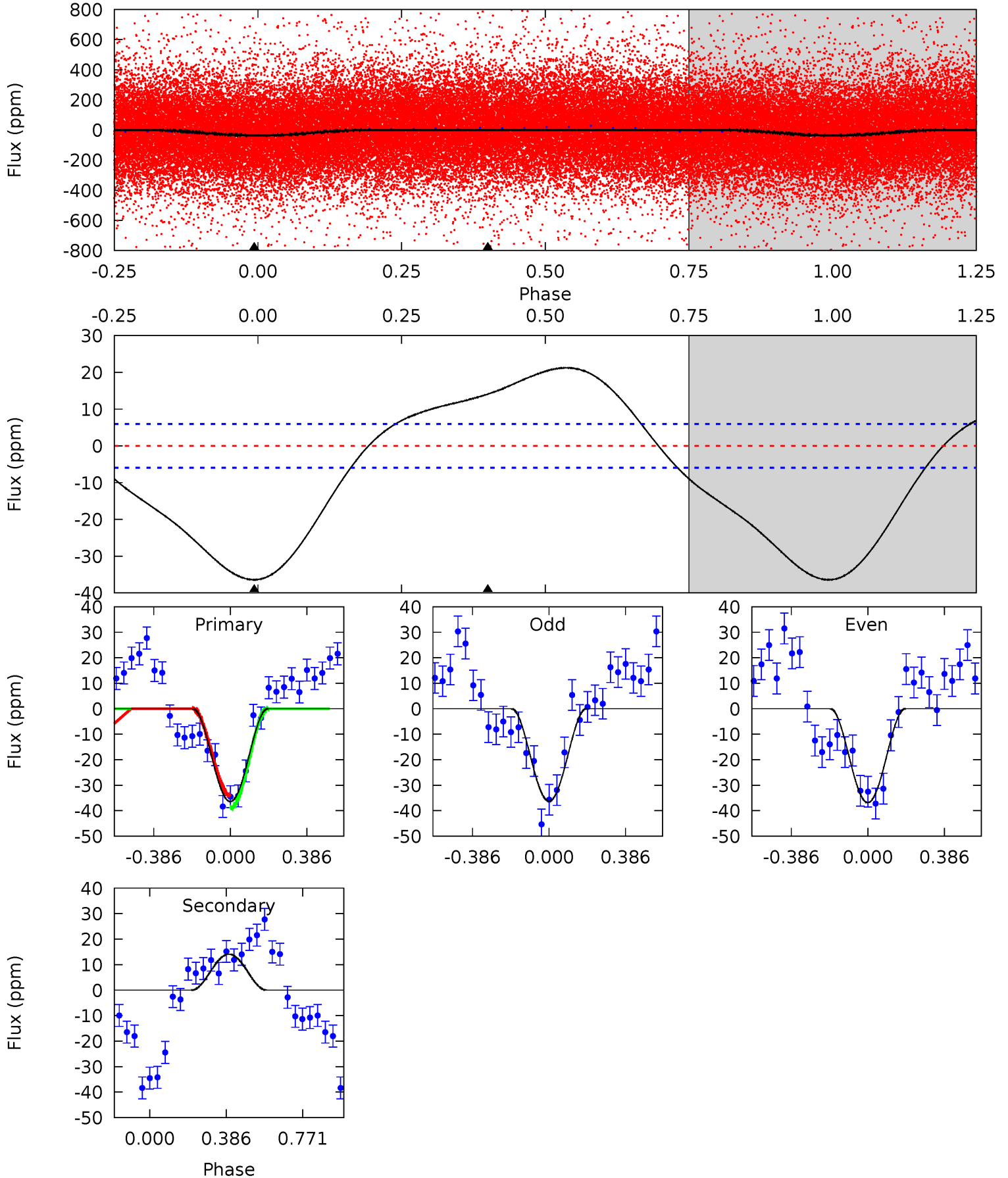
TCE 011021188-01 P= 0.988070 Days  $T_0=131.660283$  (BKJD)



# DV Model-Shift Uniqueness Test

011021188-01, P = 0.988081 Days, E = 130.694165 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
26.1	-10.1	0	0	4.27	0.87	4.03	26.1	26.1	-10.1	-10.1	0.20	0.73	0.37	1.82

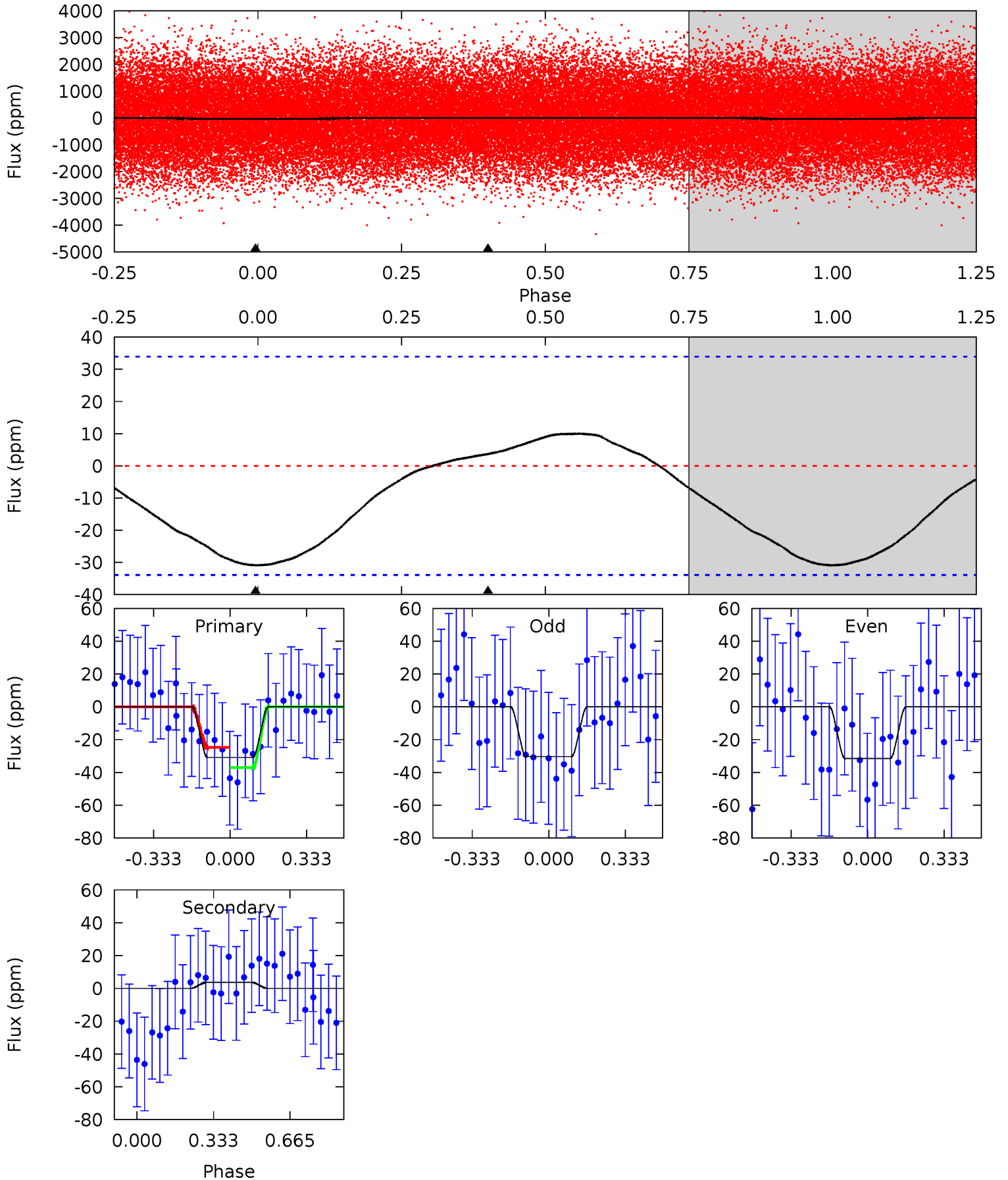




# Alt Model-Shift Uniqueness Test

011021188-01, P = 0.988070 Days, E = 130.672213 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
3.92	-0.46	0	0	4.31	0.97	0.44	3.92	3.92	-0.46	-0.46	0.07	0.95	0.24	0.75





### Stellar Parameters For KIC 011021188

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$7547^{+237}_{-316}$	$4.195^{+0.124}_{-0.186}$	$-0.300^{+0.250}_{-0.350}$	$1.582^{+0.512}_{-0.276}$	$1.429^{+0.219}_{-0.197}$	$0.508^{+0.316}_{-0.263}$
	+3%/-4%	+3%/-4%	+83%/-117%	+32%/-17%	+15%/-14%	+62%/-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 011021188-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$14 \pm 1$	$3.07^{+2.75}_{-2.05}$	$3964^{+326}_{-231}$	$-4246^{+390}_{-1815}$	$-0.390^{+0.283}_{-3.174}$
Alt.	$4 \pm 8$	$2.35^{+2.15}_{-1.57}$	$3978^{+309}_{-249}$	$-3871^{+959}_{-1233}$	$-0.096^{+0.319}_{-1.369}$

$T_{max}$  = 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

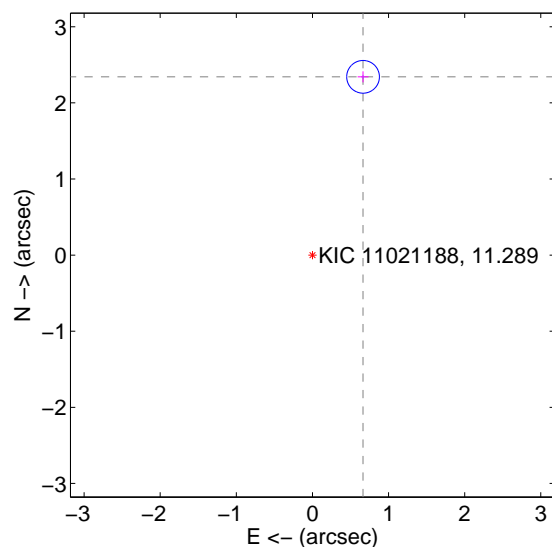
Supplemental centroid analysis for 011021188-01. **Kepler magnitude: 11.29.** Transit SNR 16.42

**There are 1 quarters with good PRF difference image offsets**

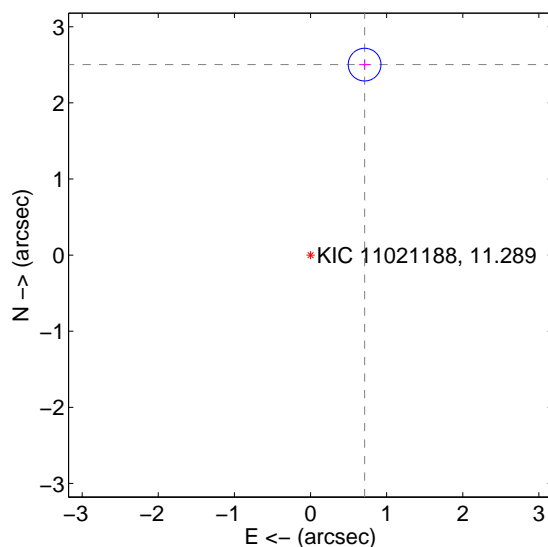
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	<b>2.434 <math>\pm</math> 0.072</b>	<b>33.99</b>	-0.665 $\pm$ 0.072	2.342 $\pm$ 0.072
PRF-fit source offset from KIC position	<b>2.601 <math>\pm</math> 0.072</b>	<b>36.32</b>	-0.711 $\pm$ 0.072	2.502 $\pm$ 0.072
photometric centroid source offset	0.60 $\pm$ 0.31	1.93	0.25 $\pm$ 0.27	-0.55 $\pm$ 0.32

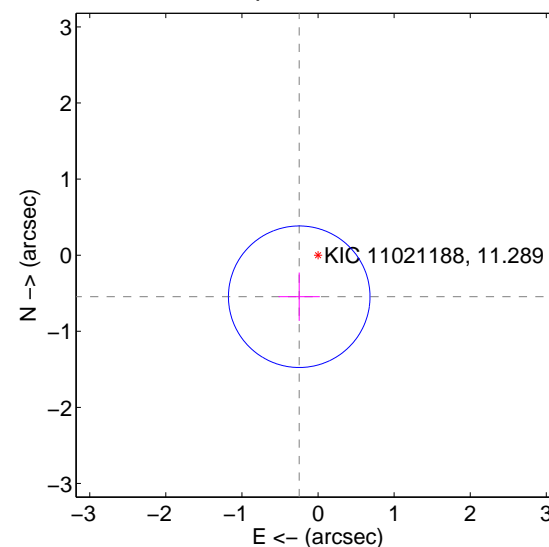
offset from difference PRF-fit to OOT PRF-fit



offset from difference PRF-fit to KIC position

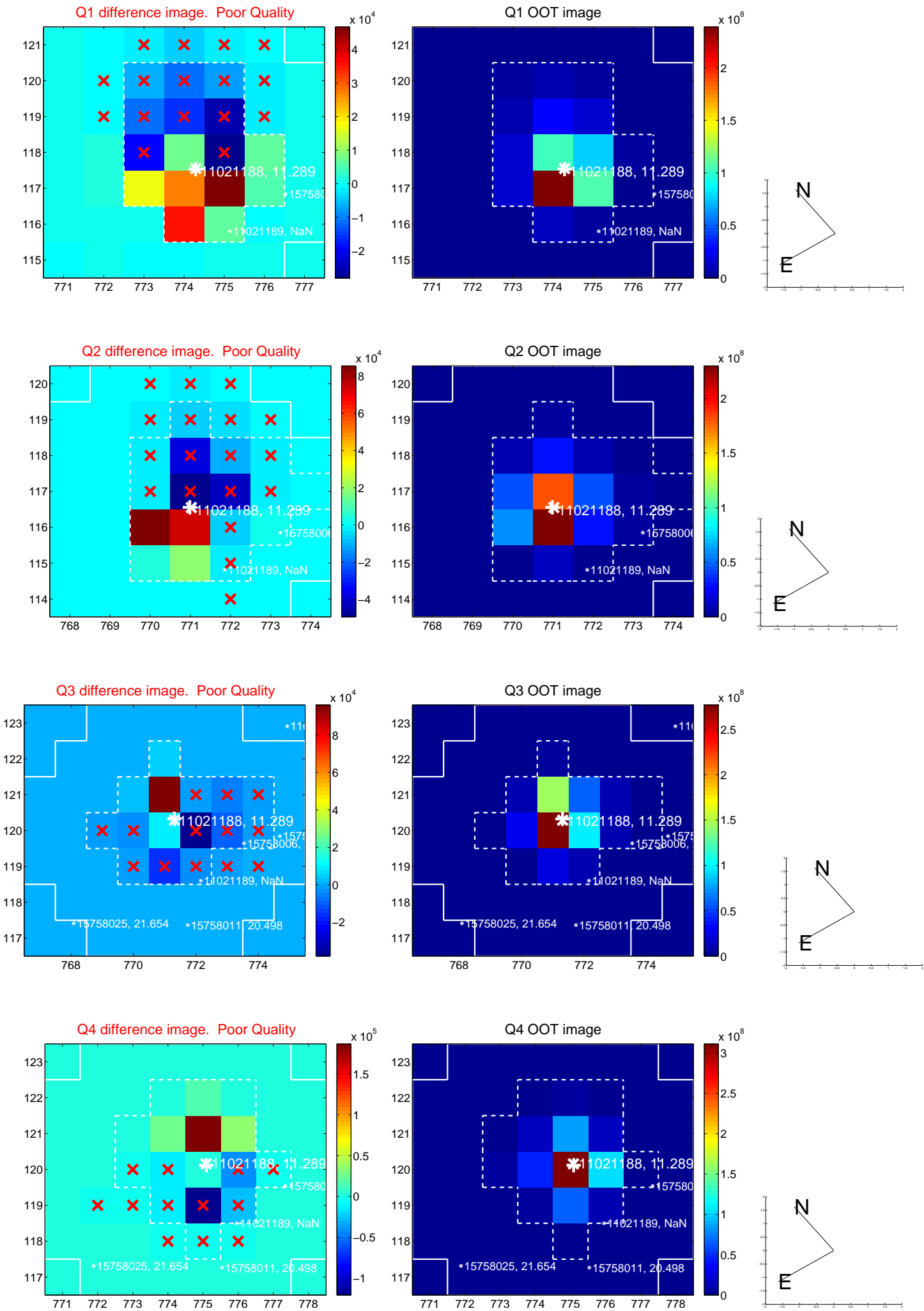


offset from photometric centroids

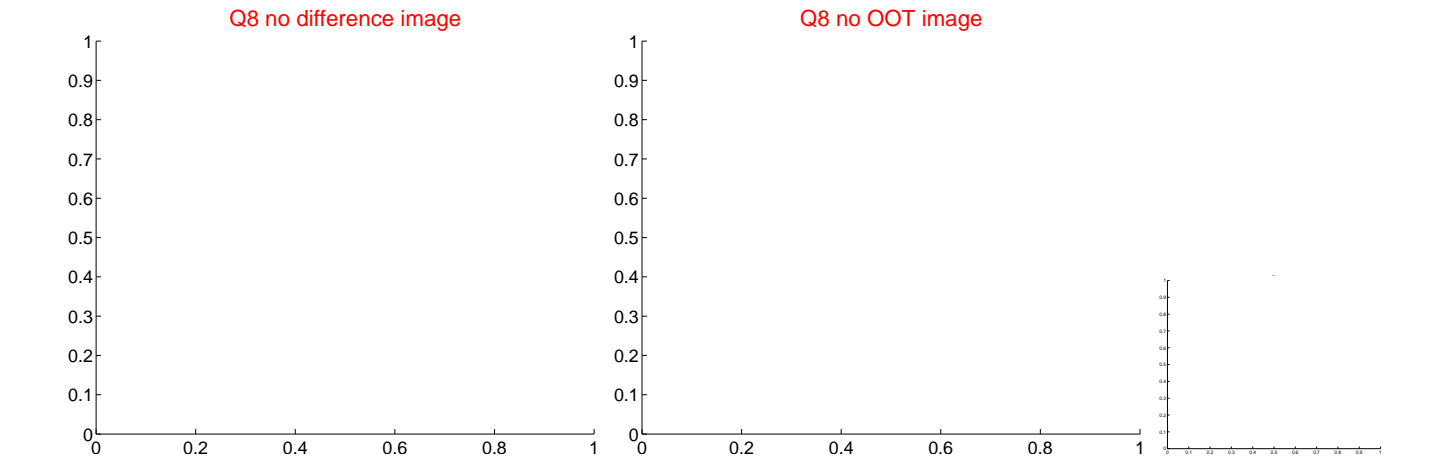
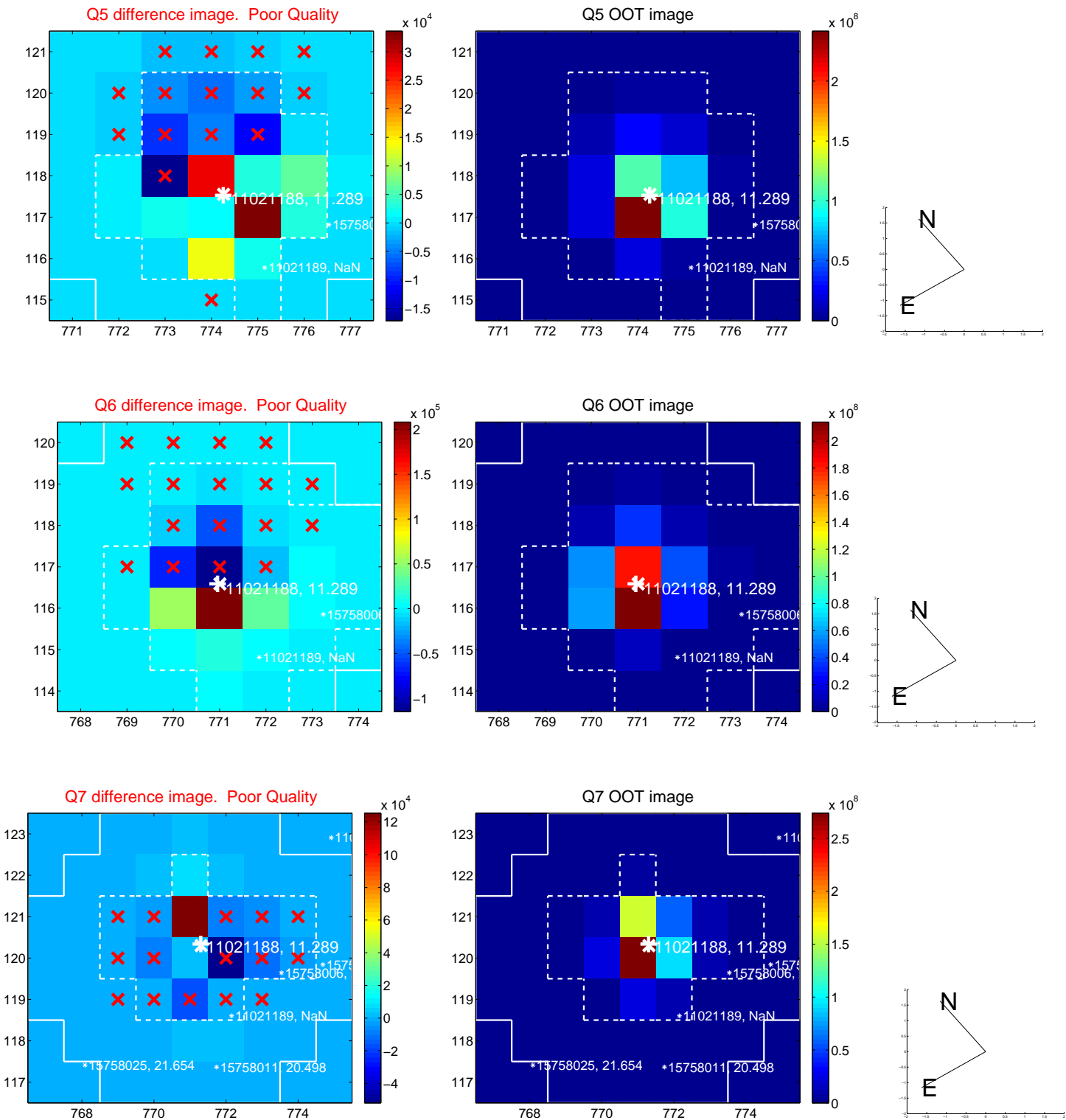


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

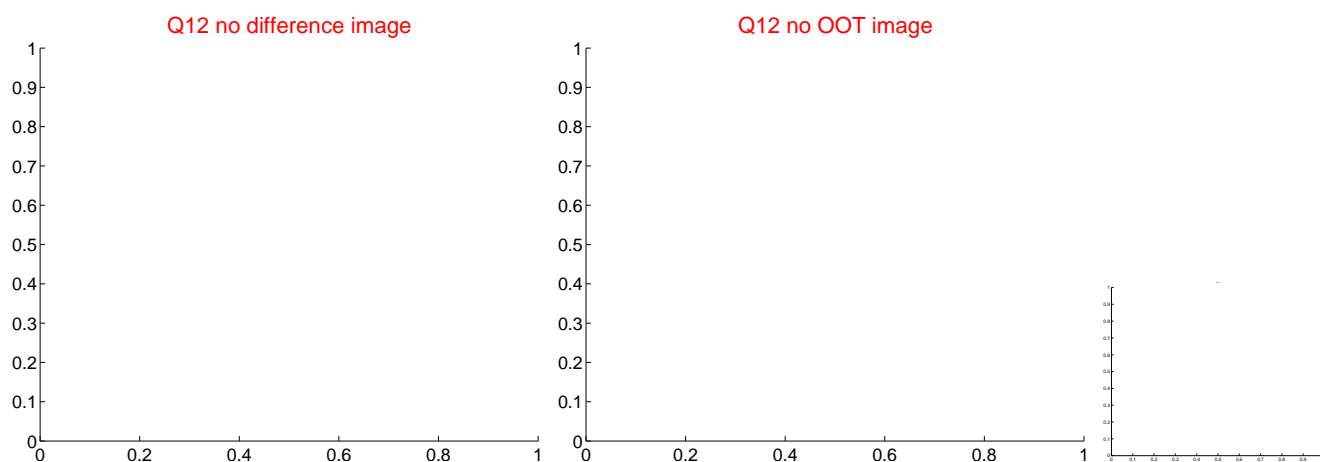
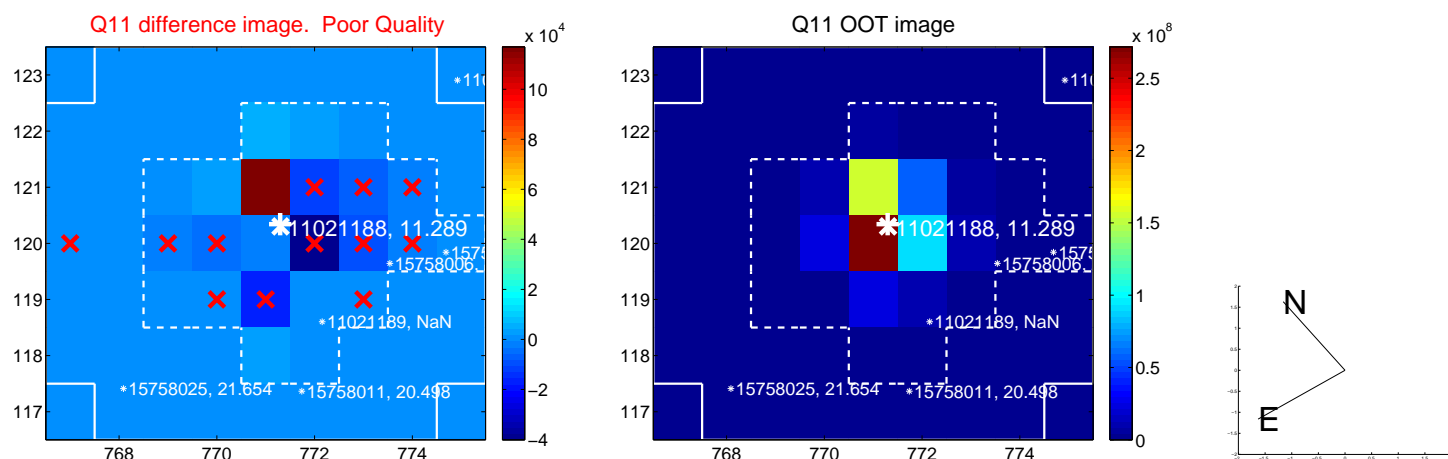
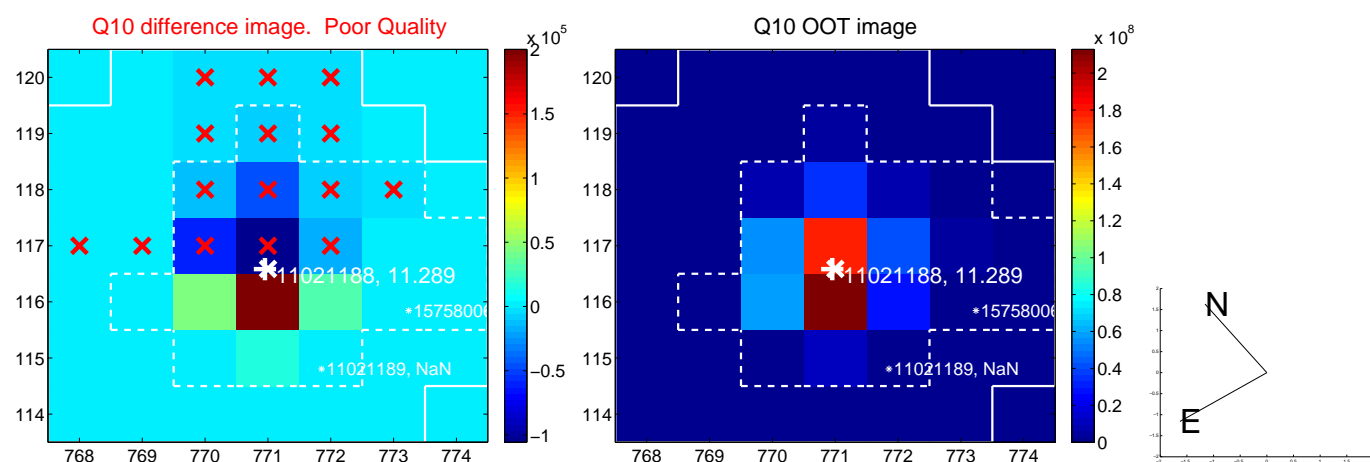
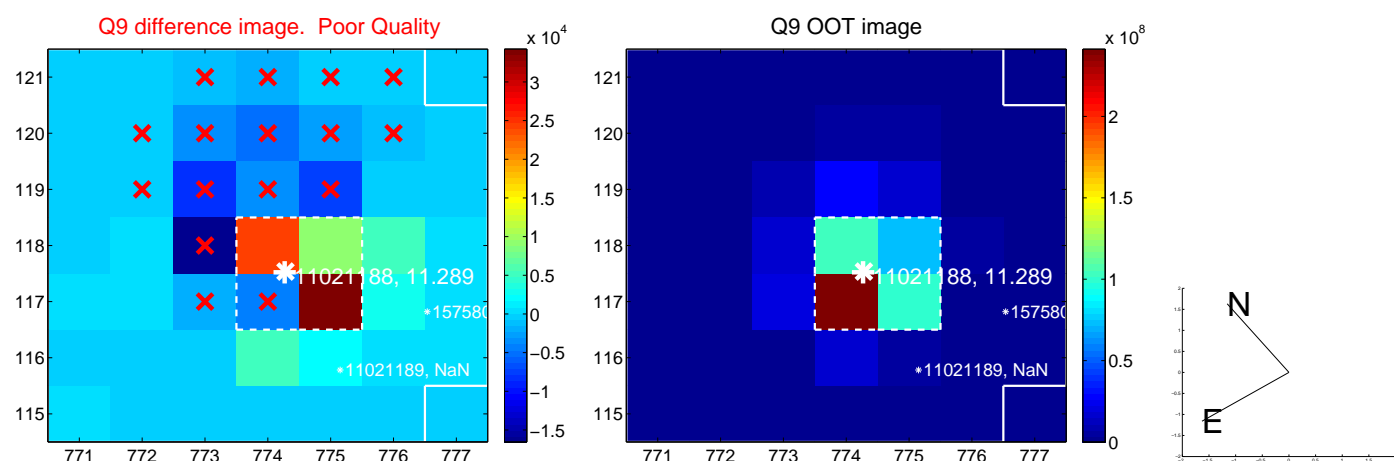


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

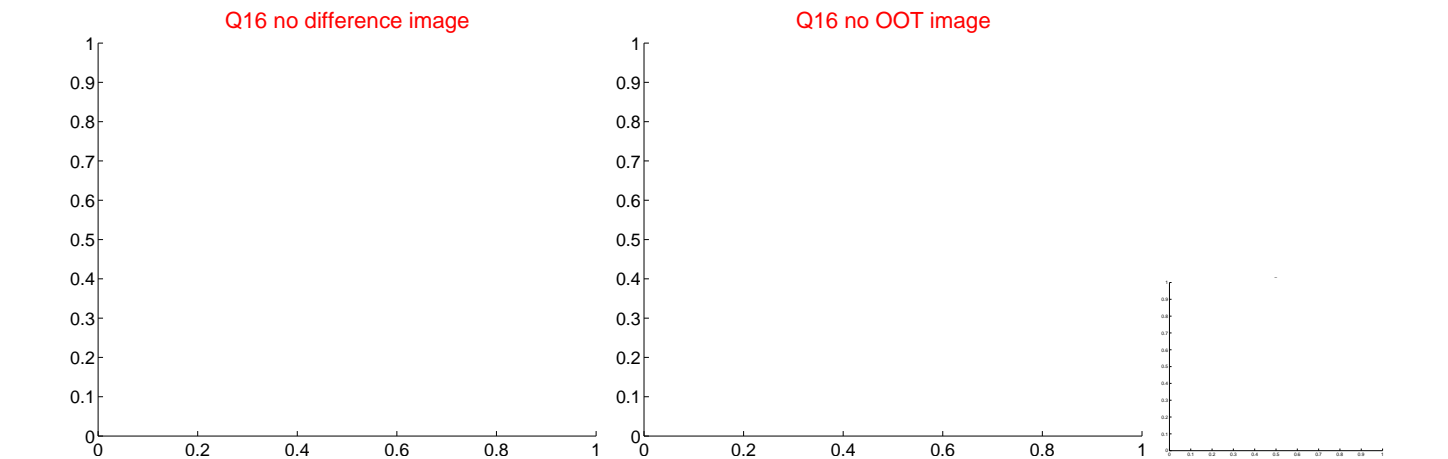
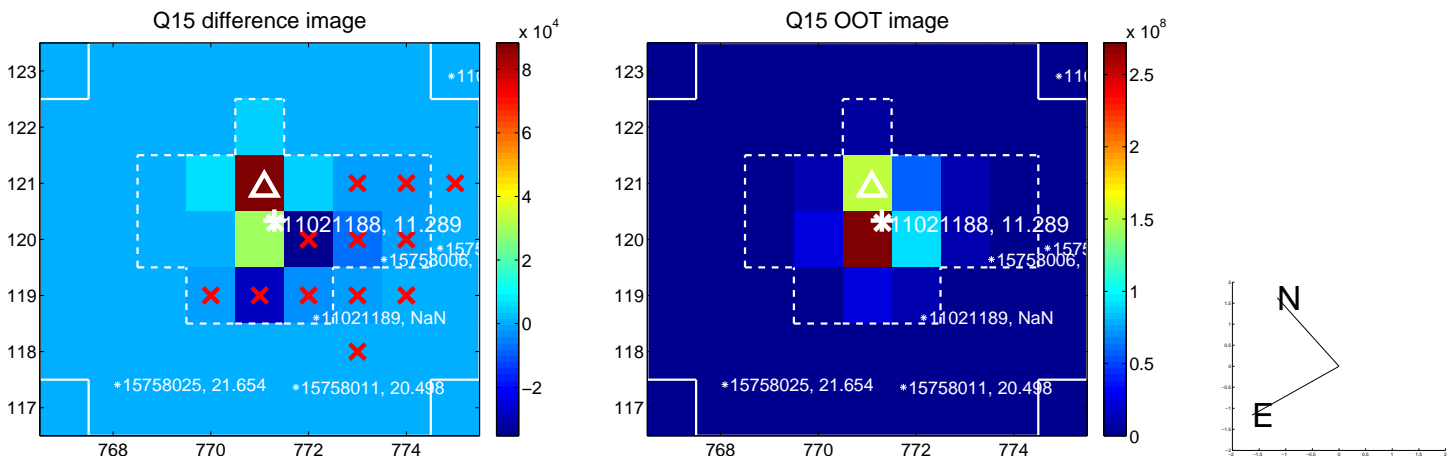
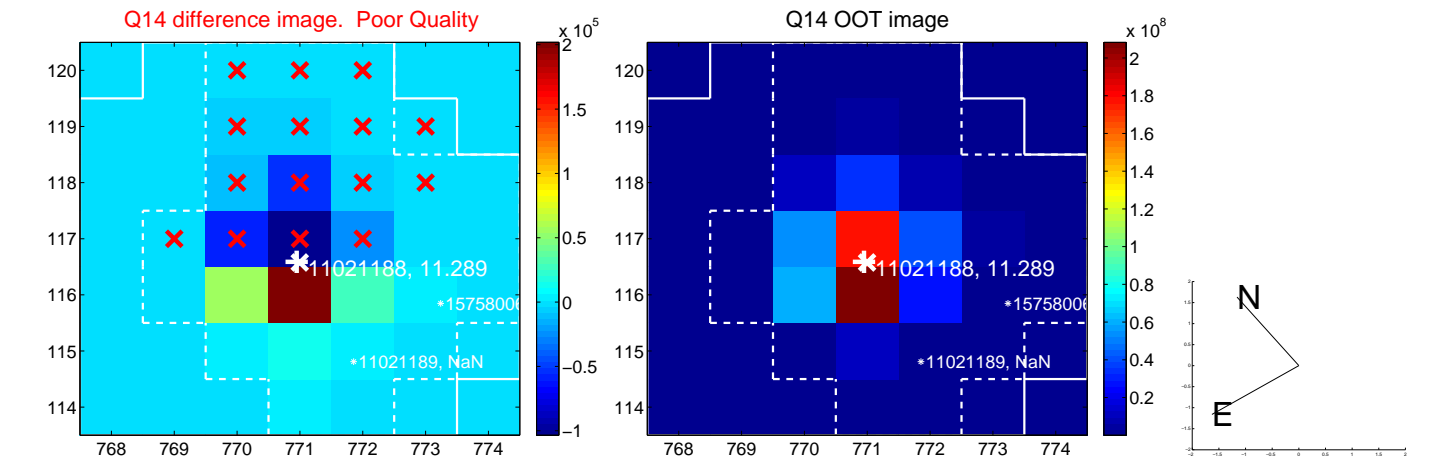
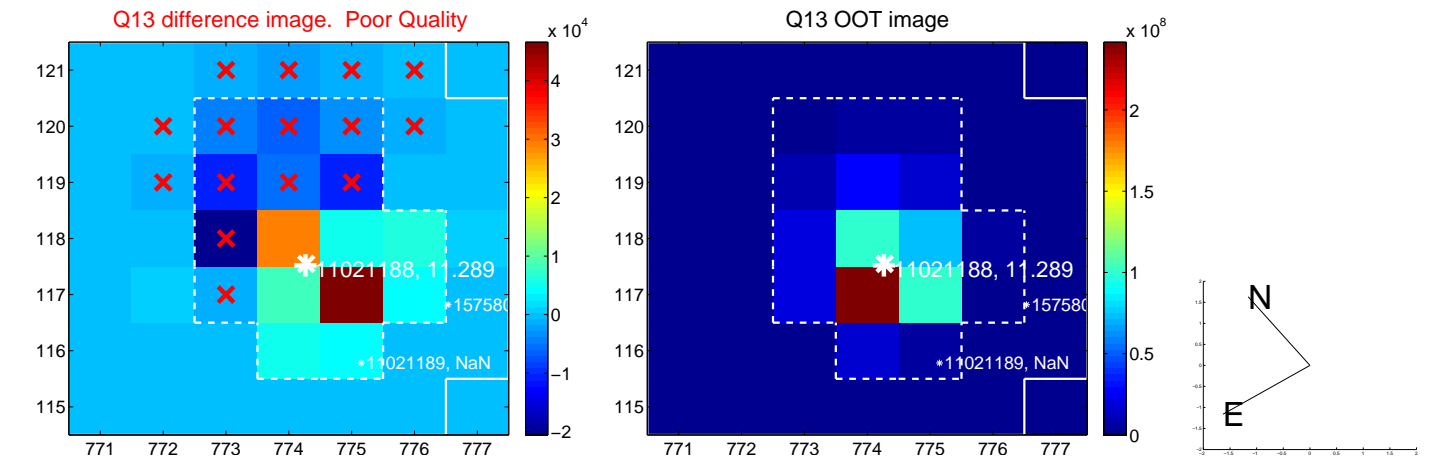




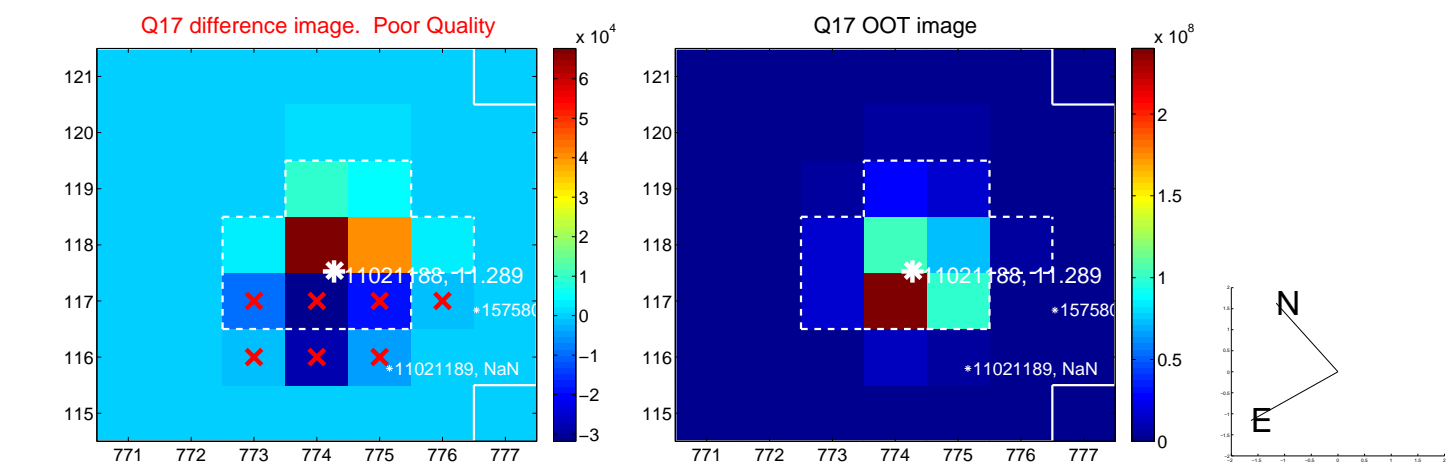
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



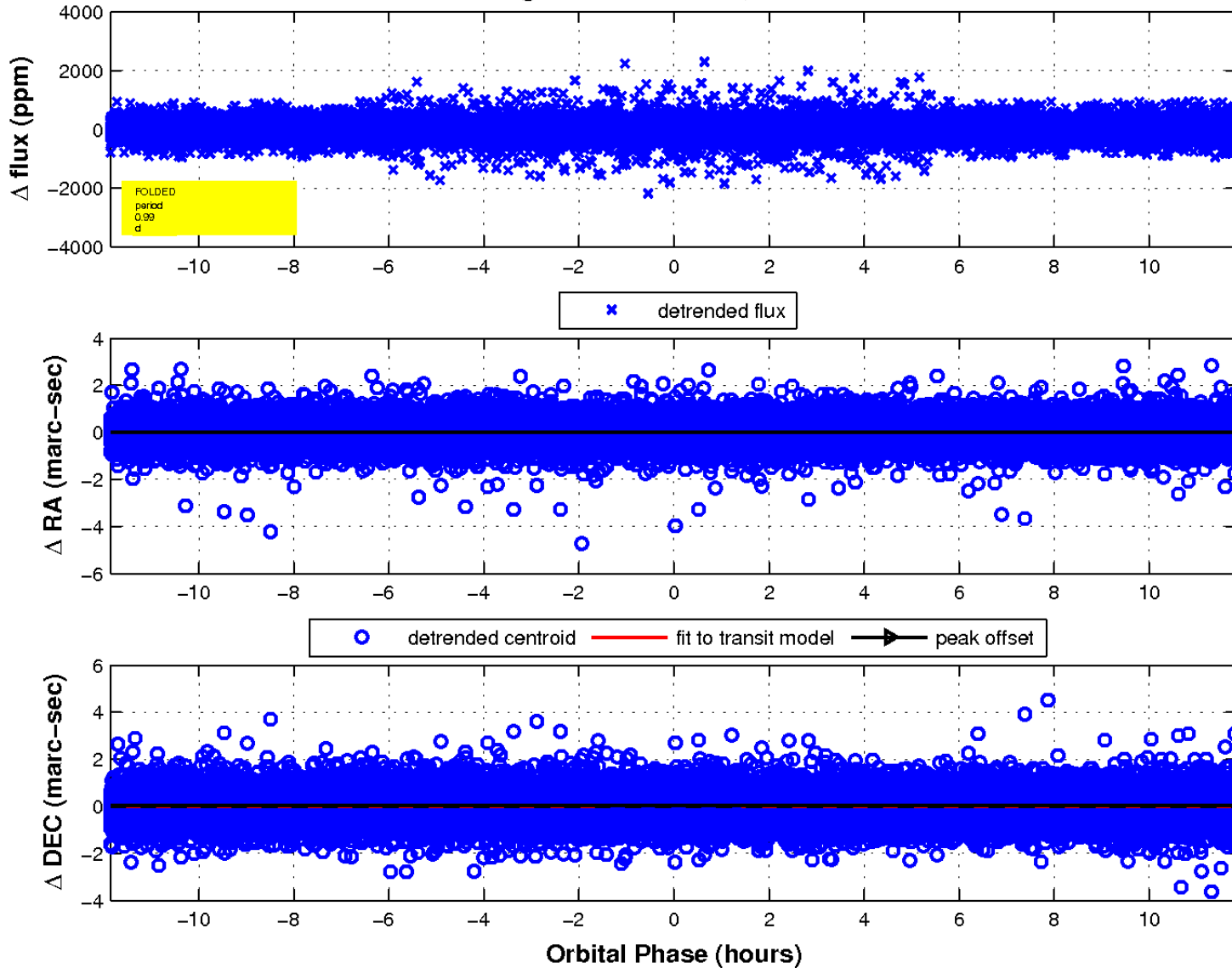
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

