

# KIC 008121280

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008121280-01	OBS	No	0.745933	131.606563	3.2	7.039	8.7	3.5	3.09	8323	0.58	99104.66

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008121280-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_FEW_DIFFS

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

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

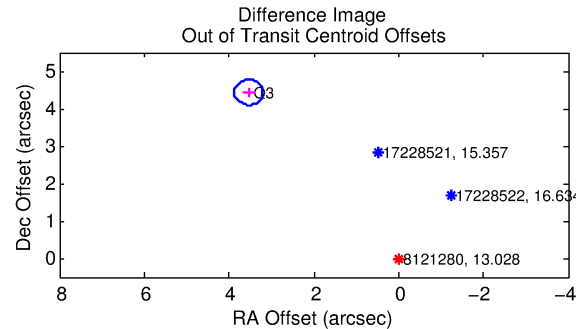
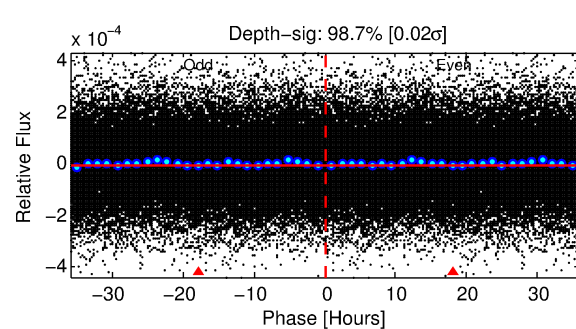
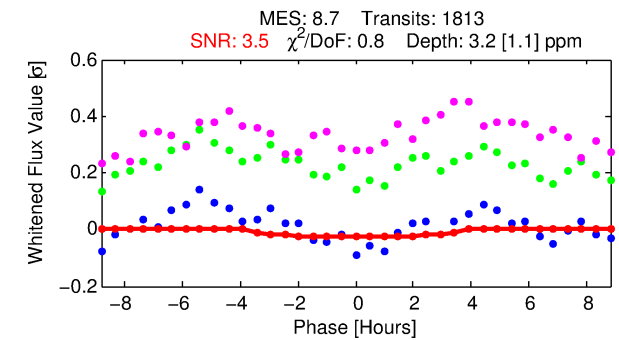
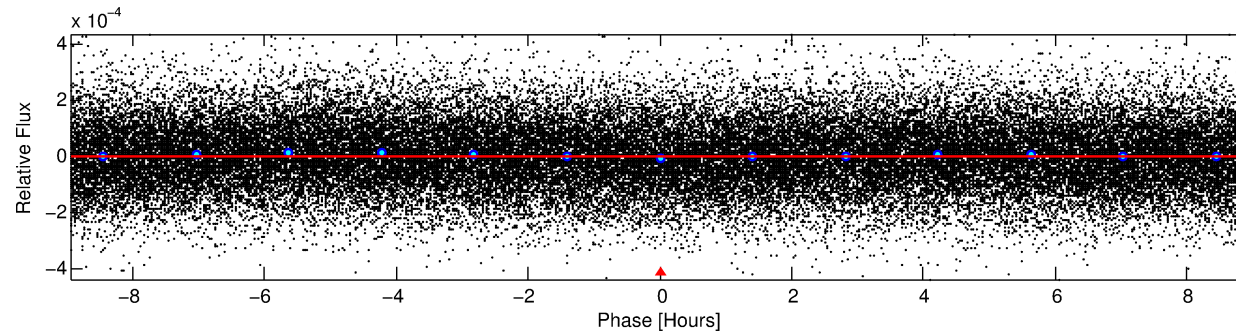
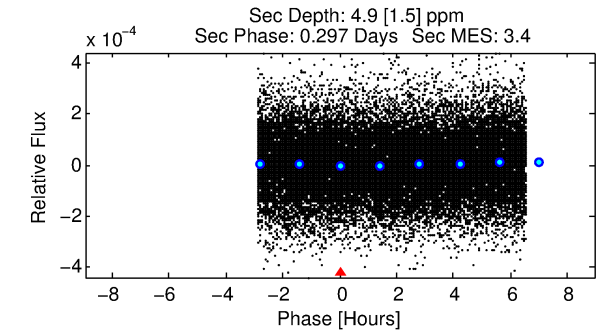
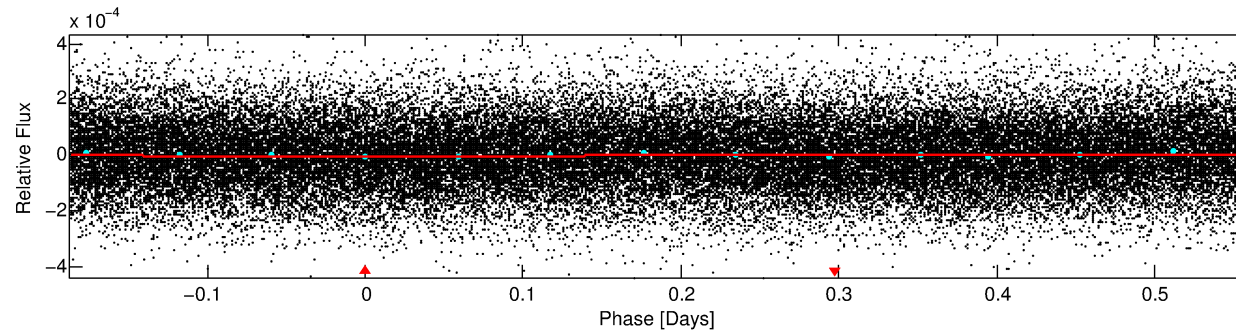
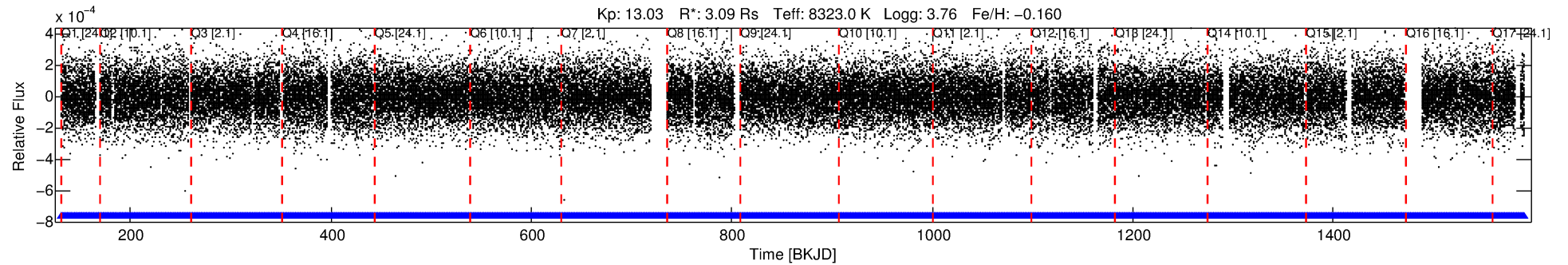
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008121280-01

No Significant Match Found

# DV One-Page Summary

KIC: 8121280 Candidate: 1 of 1 Period: 0.746 d



## DV Fit Results:

Period = 0.74593 [0.00004] d  
Epoch = 131.6066 [0.0192] BKJD  
Rp/R\* = 0.0017 [0.0032]  
a/R\* = 1.05 [0.97]  
b = 0.52 [15.94]  
Seff = 99104.66 [74307.02]  
Teq = 4524 [848] K  
Rp = 0.58 [1.12] Re  
a = 0.0204 [0.0092] AU  
Ag = 3.39 [13.10] [0.18σ]  
Teff = 9494 [9007] K [0.55σ]

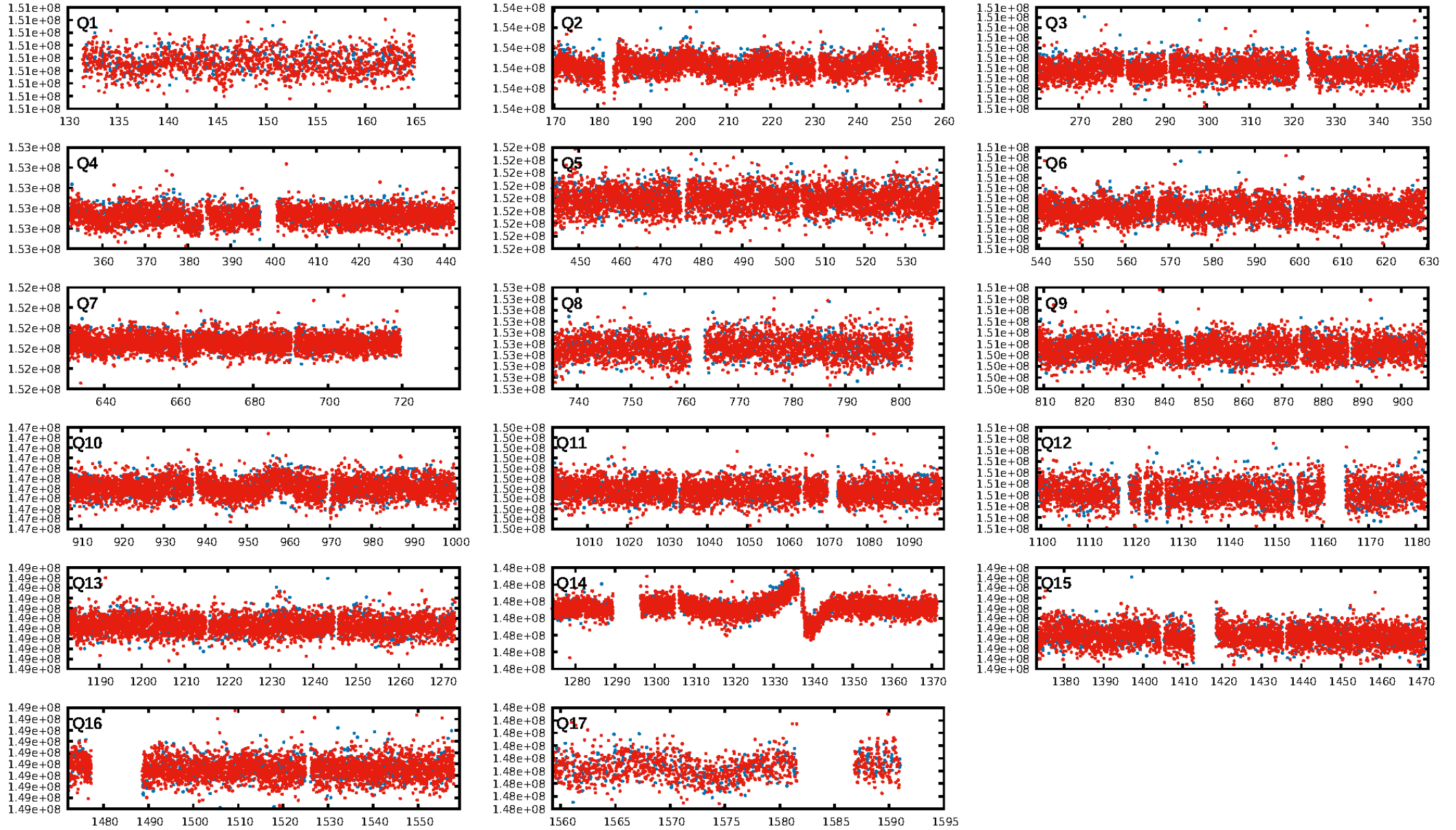
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGoF-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1731/1731]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 5.666 arcsec [50.70σ]  
KicOffset-rm: 5.739 arcsec [51.45σ]  
OotOffset-st: 0/1/0/0 [1]  
KicOffset-st: 0/1/0/0 [1]  
DiffImageQuality-fgm: 0.00 [0/1]  
DiffImageOverlap-fno: 1.00 [17/17]

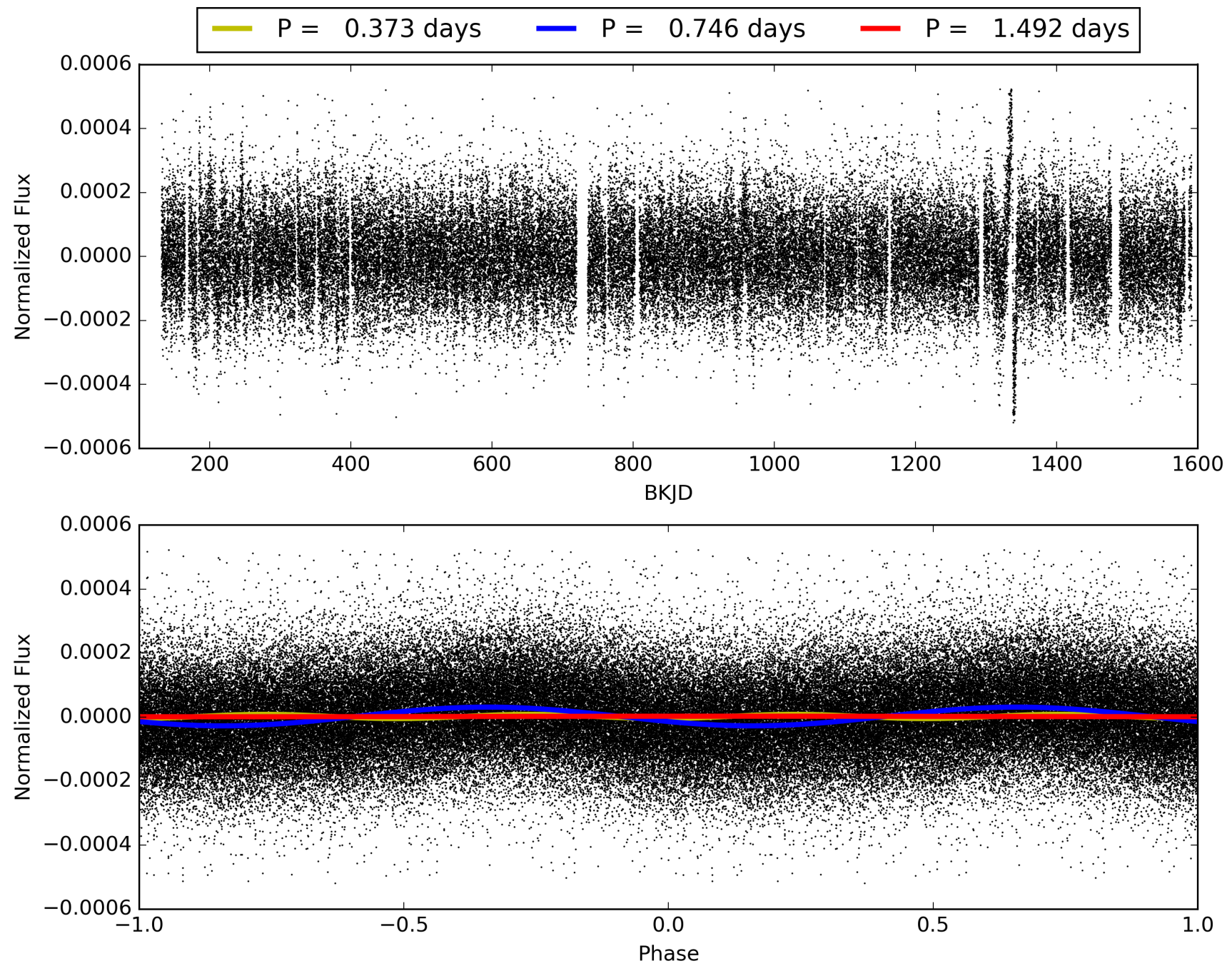
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 16:36:51 Z

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

# TCE 008121280-01, PDC Light Curves



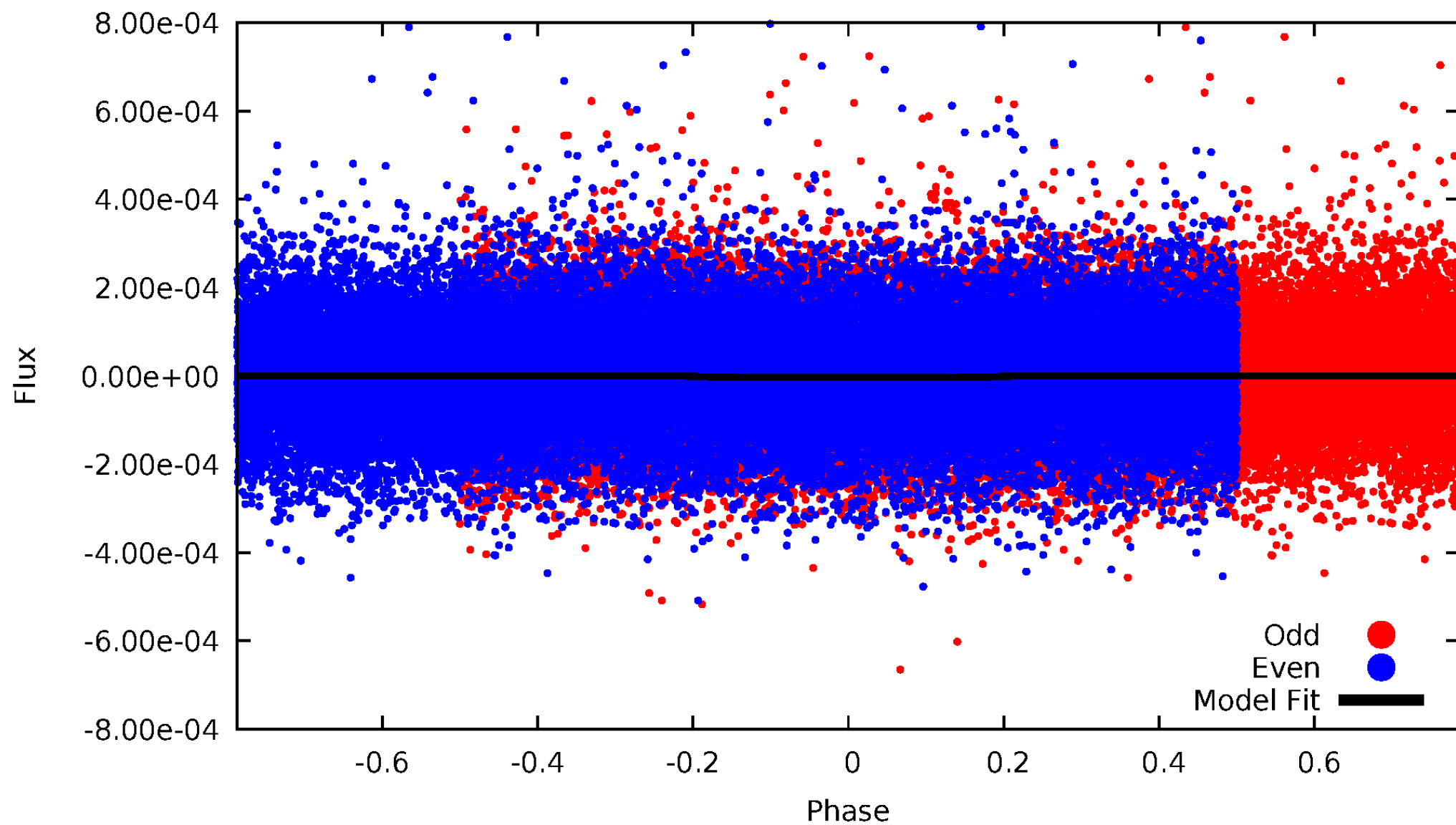
TCE 008121280-01





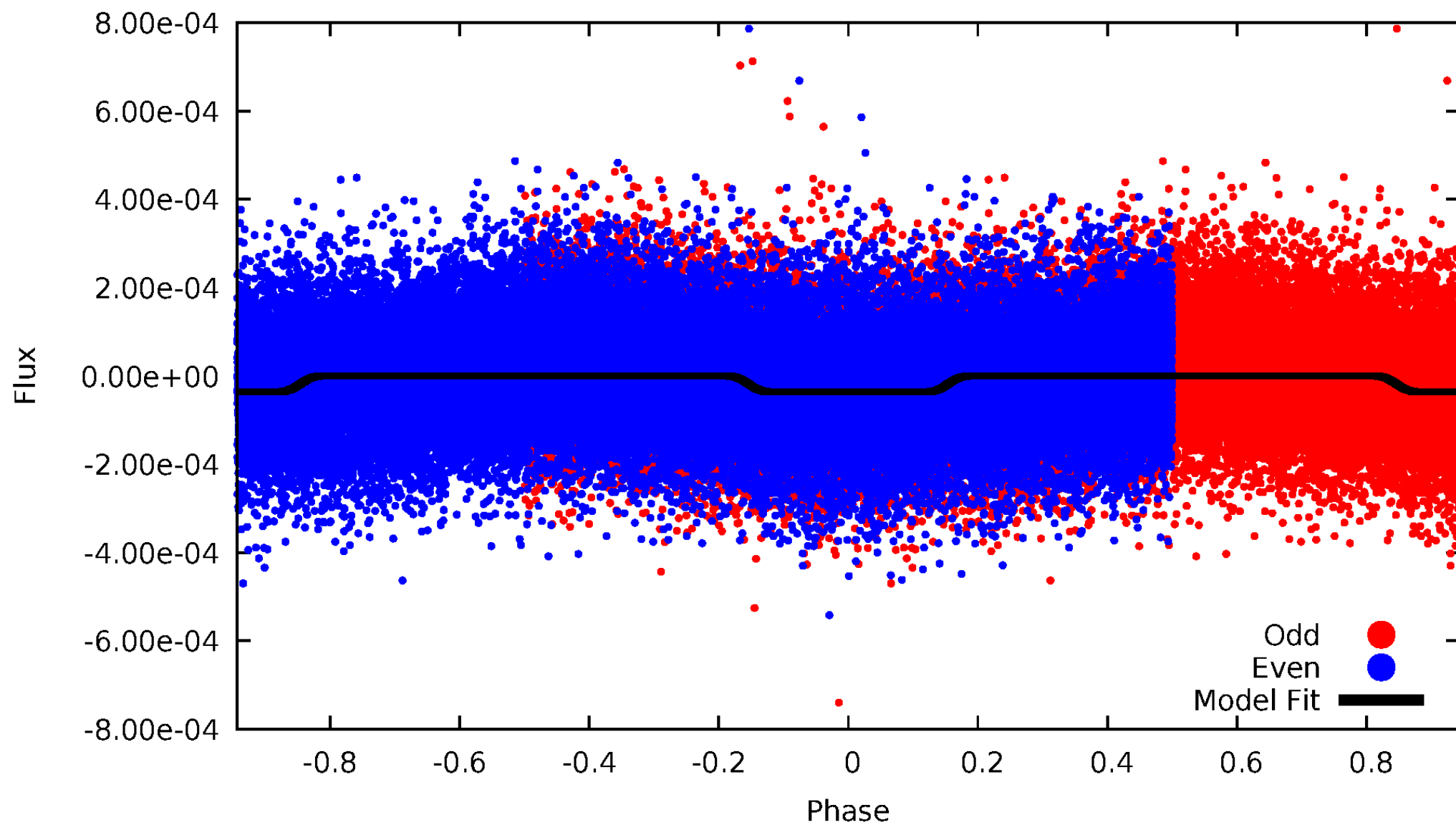
# DV Odd/Even

TCE 008121280-01

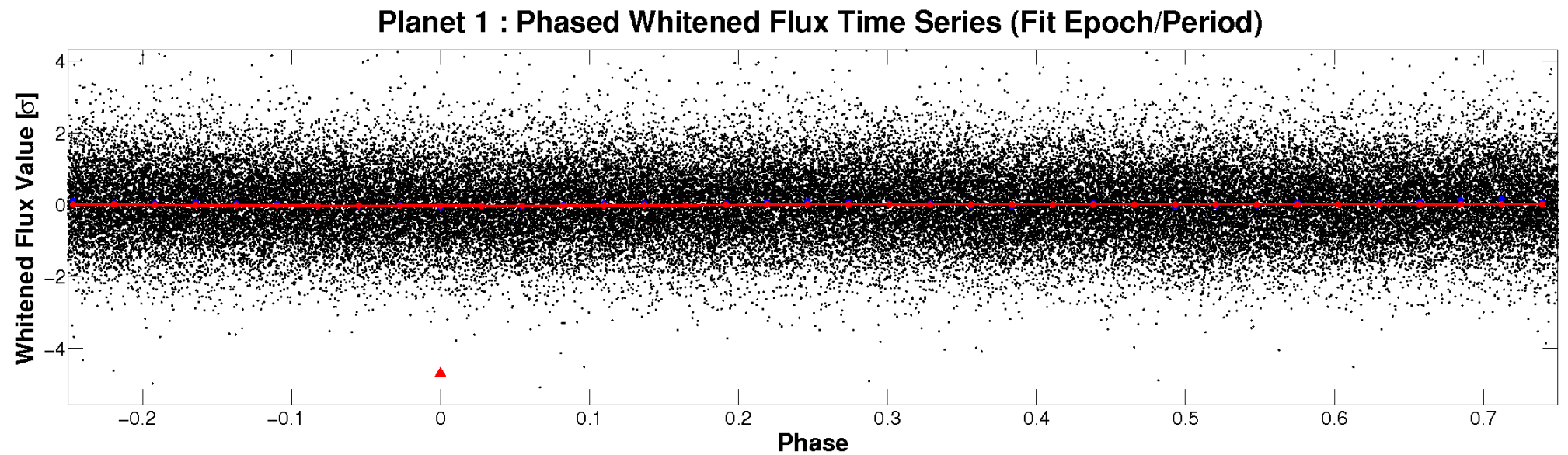
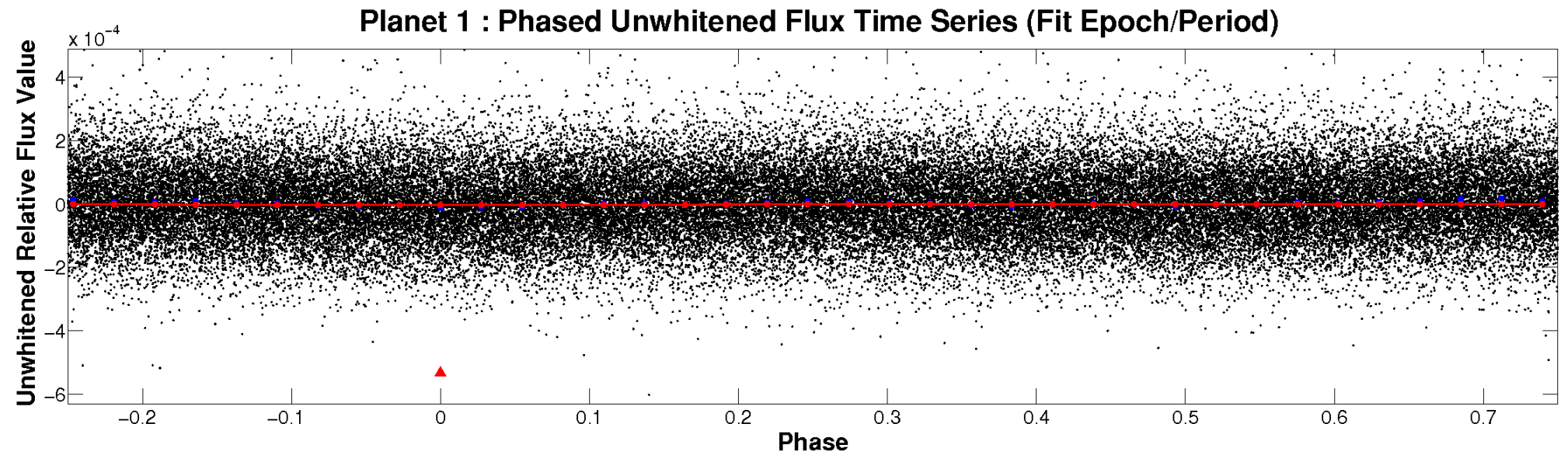


# ALT Odd/Even

TCE 008121280-01

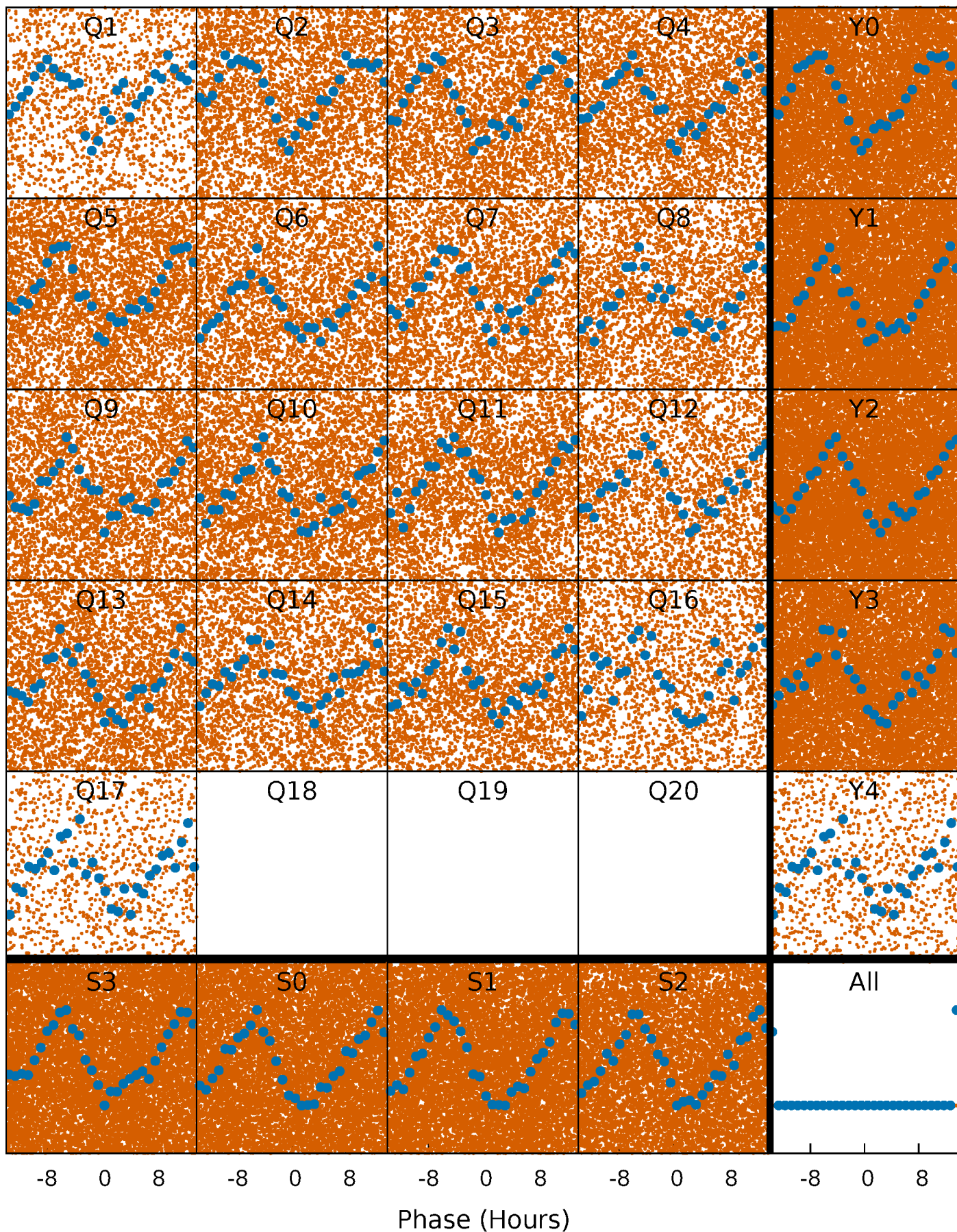


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

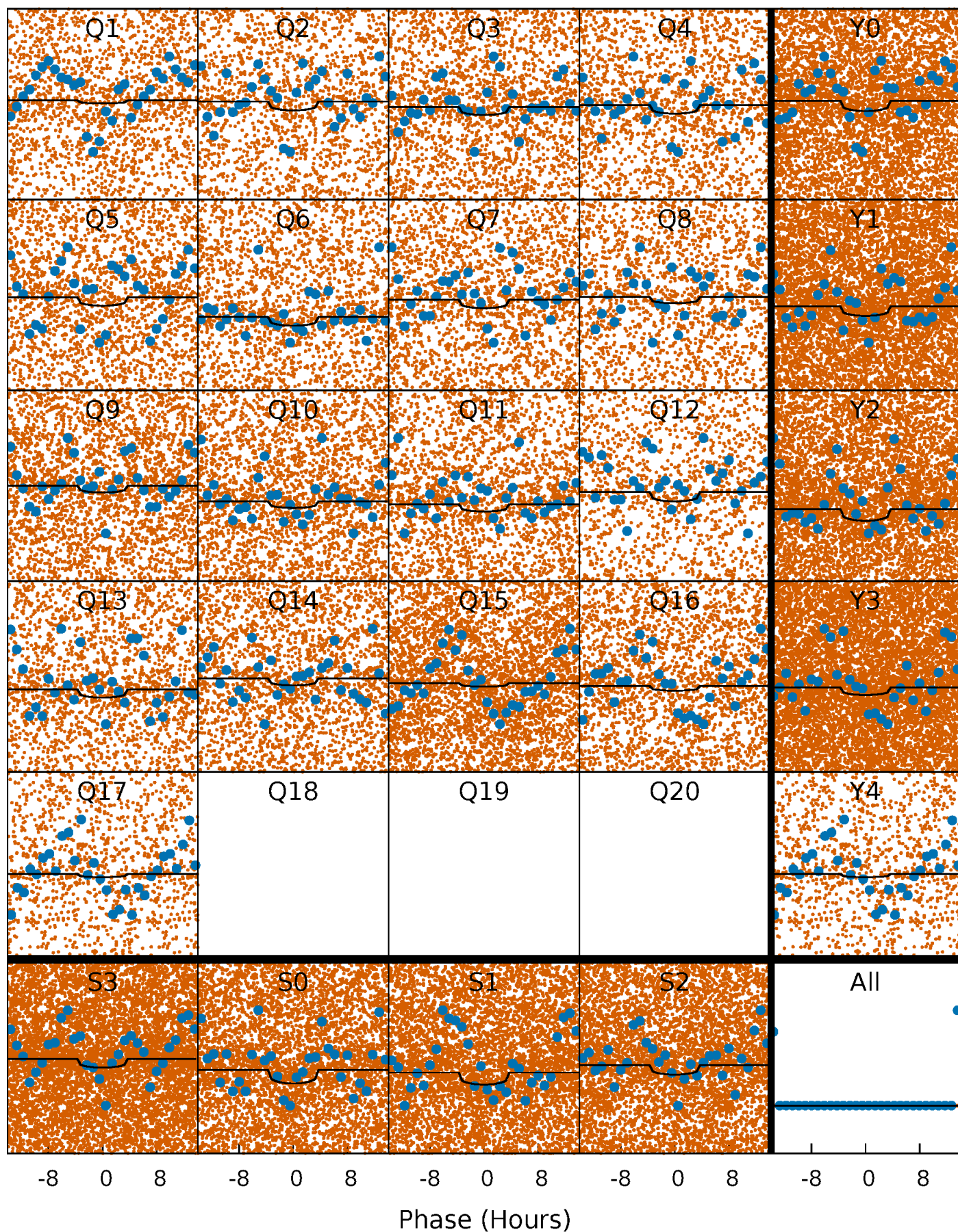
TCE 008121280-01   P= 0.745933 Days    $T_0=131.606563$  (BKJD)





# DV Quarter-Phased Transit Curves

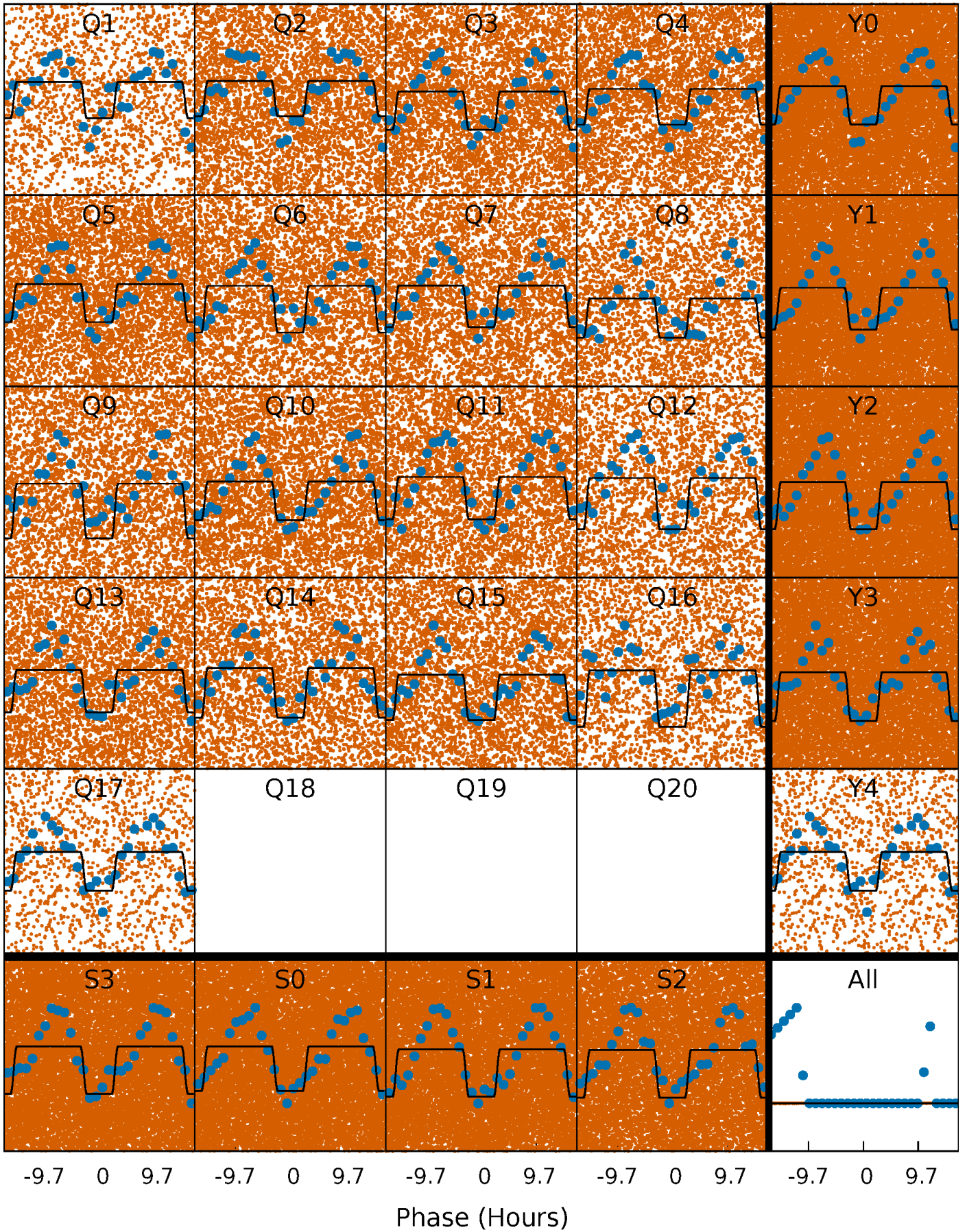
TCE 008121280-01   P= 0.745933 Days    $T_0=131.606563$  (BKJD)





# Alt. Detrend Quarter-Phased Transit Curves

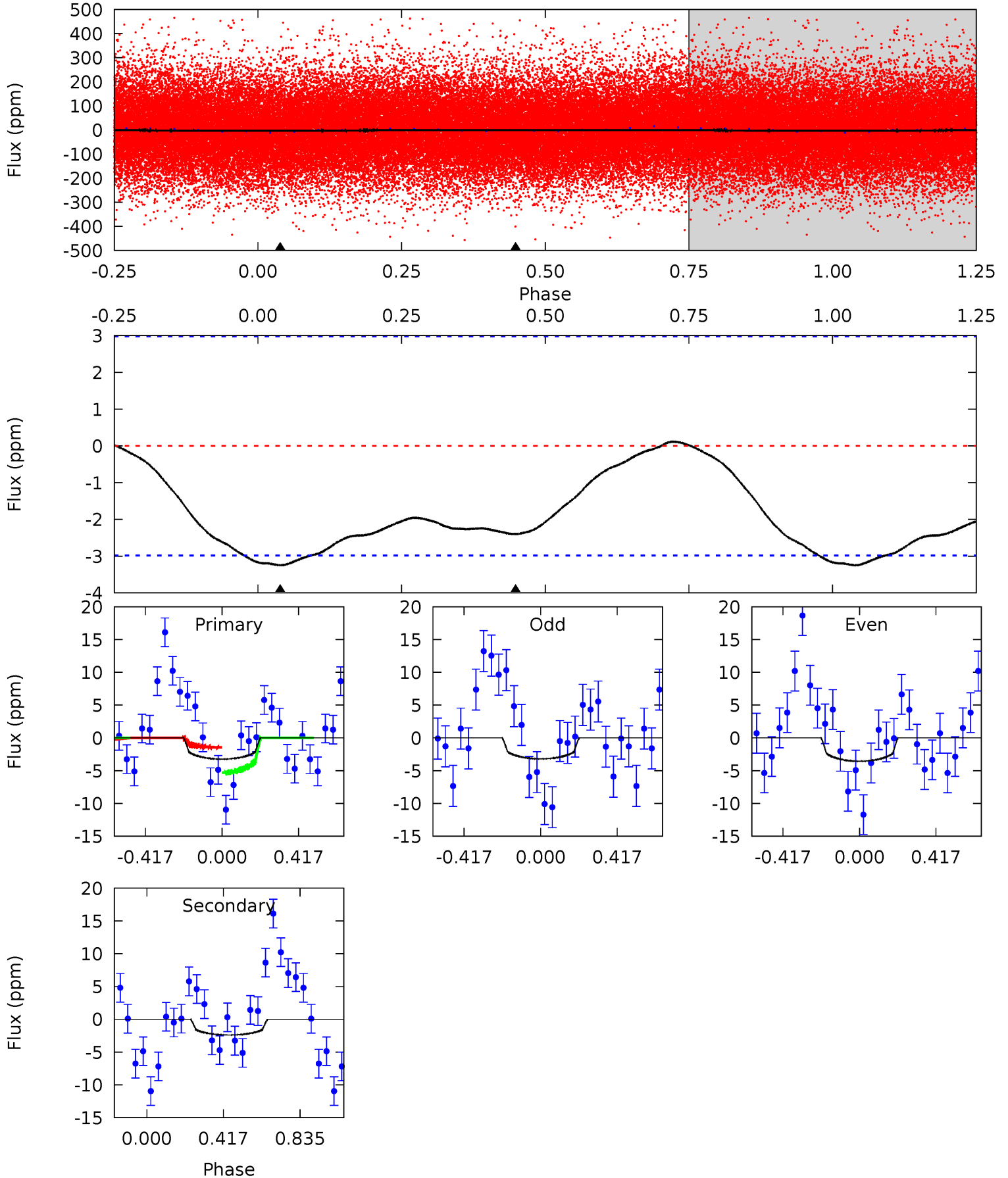
TCE 008121280-01 P= 0.746004 Days  $T_0=131.620125$  (BKJD)



# DV Model-Shift Uniqueness Test

008121280-01, P = 0.745933 Days, E = 130.860630 Days

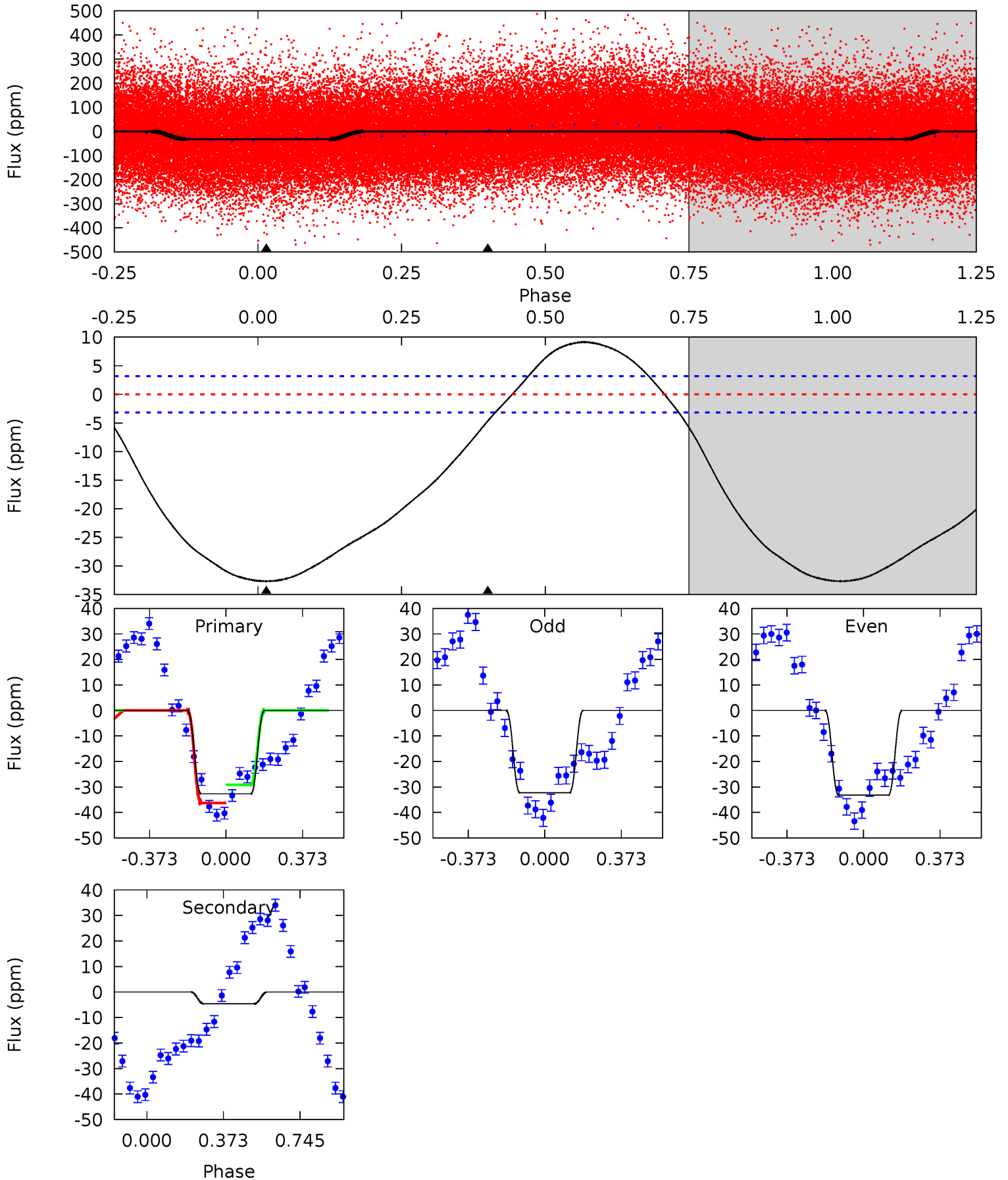
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.64	3.43	0	0	4.26	0.81	0.18	4.64	4.64	3.43	3.43	0.26	1.26	0.03	2.79



# Alt Model-Shift Uniqueness Test

008121280-01, P = 0.746004 Days, E = 130.874121 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
43.9	6.25	0	0	4.28	0.89	4.80	43.9	43.9	6.25	6.25	0.60	0.97	0.22	4.87





### Stellar Parameters For KIC 008121280

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M(M_{\odot})$	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$8323^{+202}_{-347}$	$3.764^{+0.433}_{-0.102}$	$-0.160^{+0.250}_{-0.400}$	$3.094^{+0.760}_{-1.412}$	$2.024^{+0.343}_{-0.471}$	$0.096^{+0.354}_{-0.033}$
	+2%/-4%	+12%/-3%	+156%/-250%	+25%/-46%	+17%/-23%	+368%/-34%
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 008121280-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-2 \pm 1$	$0.86^{+0.91}_{-0.56}$	$6084^{+475}_{-710}$	$5119^{+5917}_{-9386}$	$0.728^{+5.685}_{-0.566}$
Alt.	$-5 \pm 1$	$1.87^{+1.09}_{-1.00}$	$6069^{+485}_{-747}$	$2707^{+3688}_{-7221}$	$0.308^{+1.069}_{-0.184}$

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

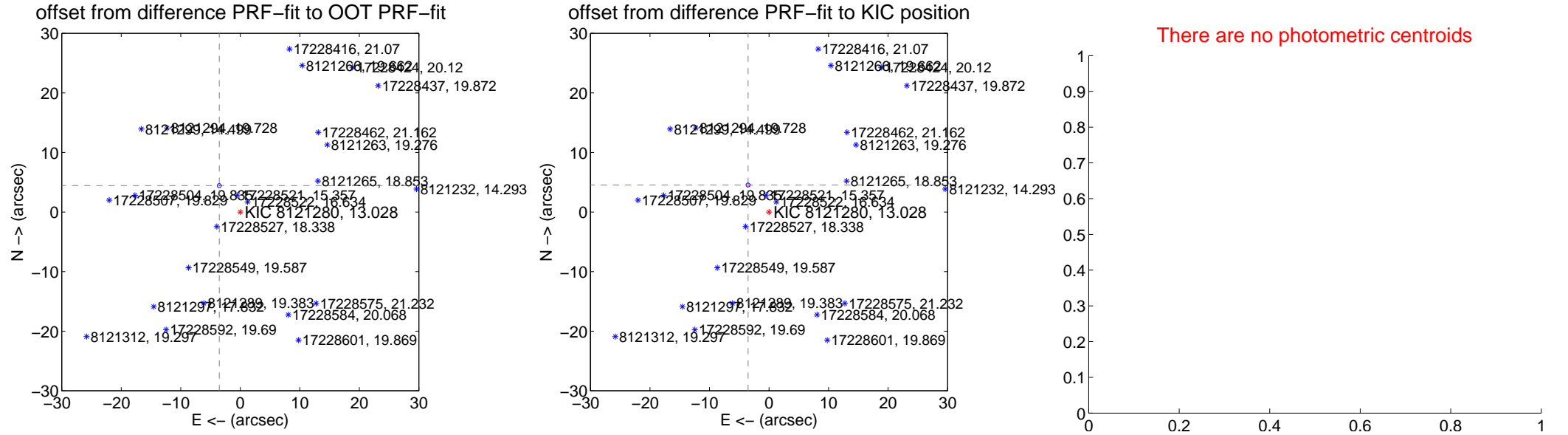
## DV Centroid Data

Supplemental centroid analysis for 008121280-01. Kepler magnitude: 13.03. Transit SNR 3.46

There are 0 quarters with good PRF difference image offsets

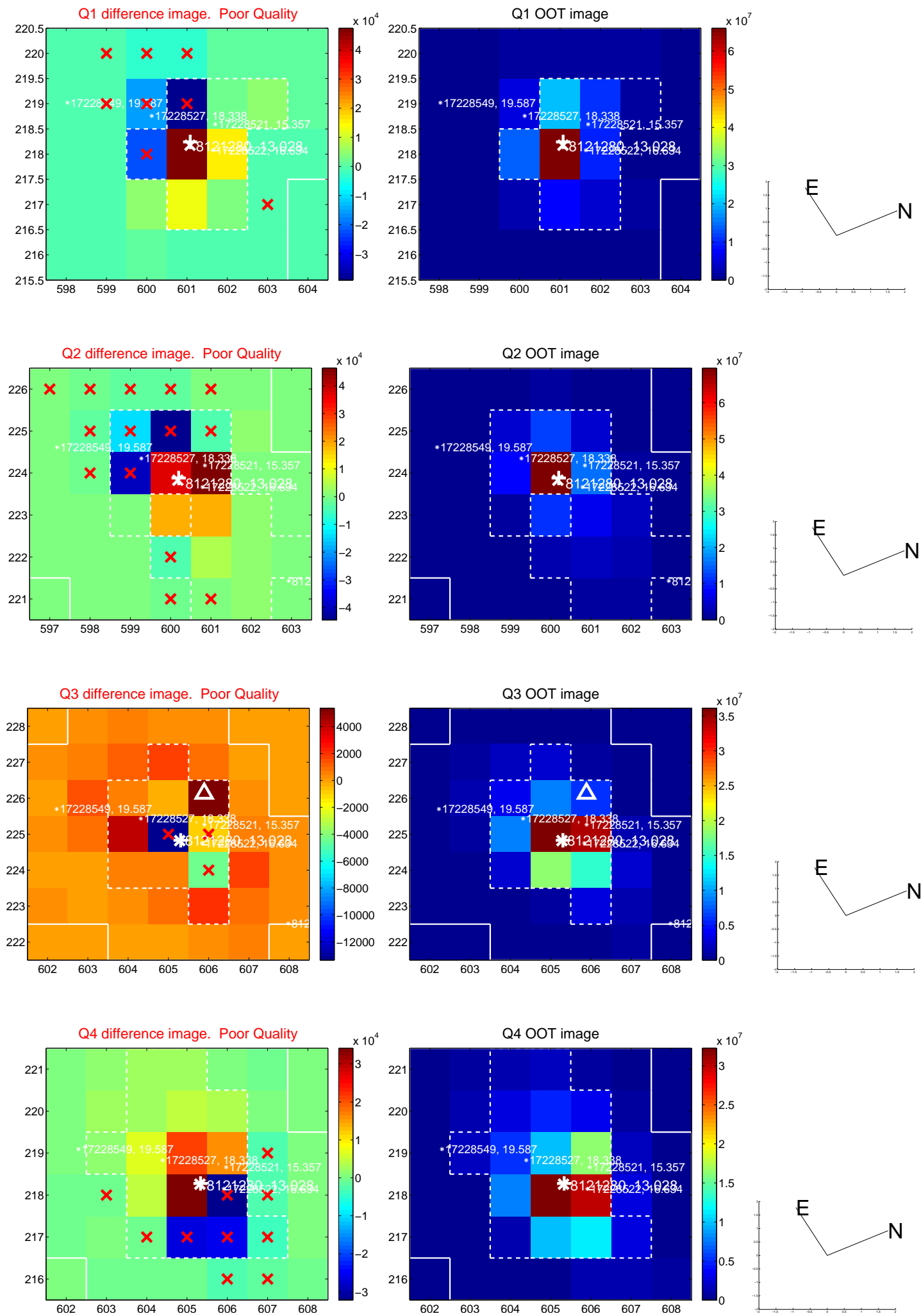
The direct PRF centroid is offset from the target star catalog position by about 0.10 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	5.666 $\pm$ 0.112	50.70	3.532 $\pm$ 0.122	4.430 $\pm$ 0.105
PRF-fit source offset from KIC position	5.739 $\pm$ 0.112	51.45	3.519 $\pm$ 0.122	4.533 $\pm$ 0.105
photometric centroid source offset	—	—	—	—

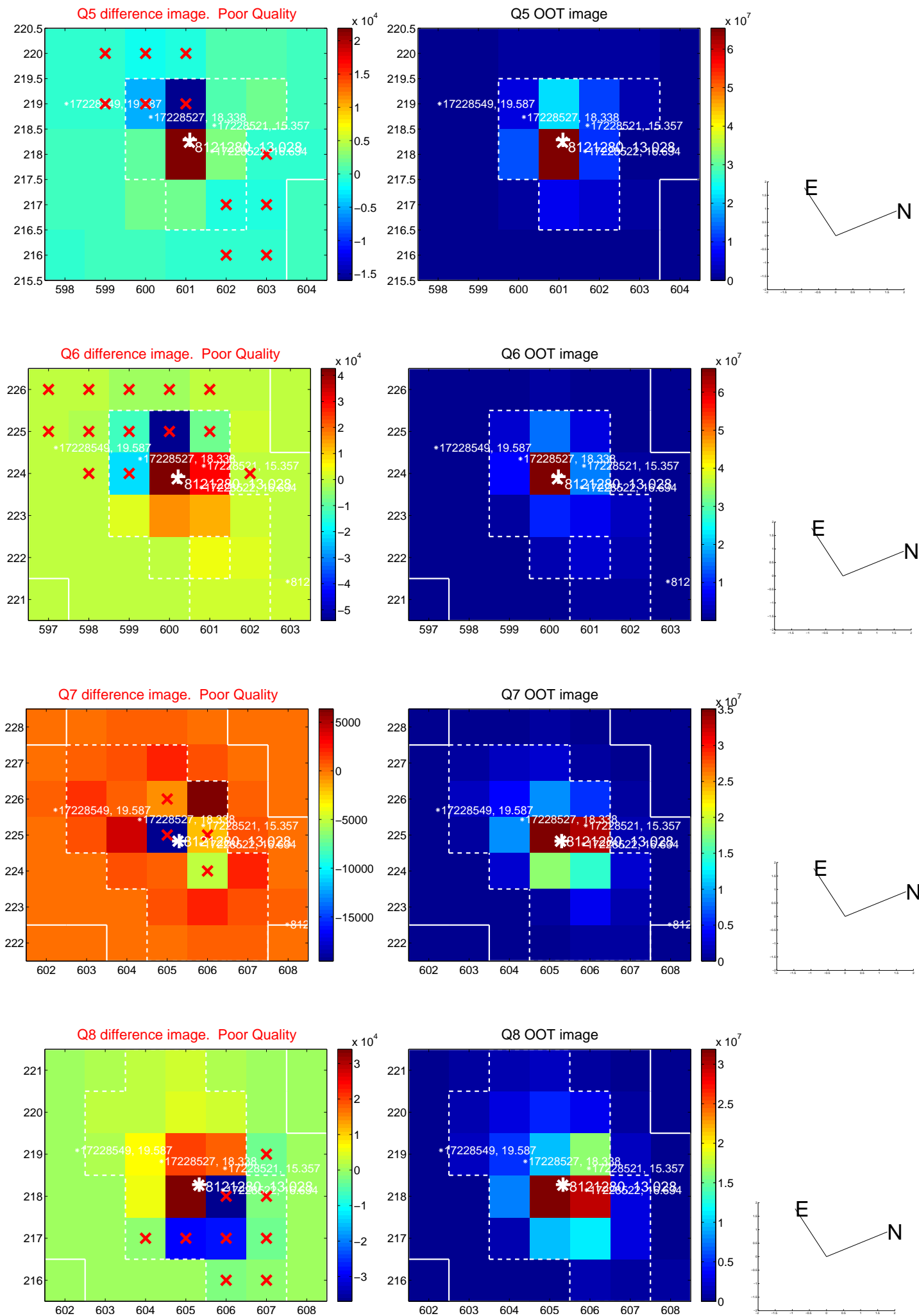


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

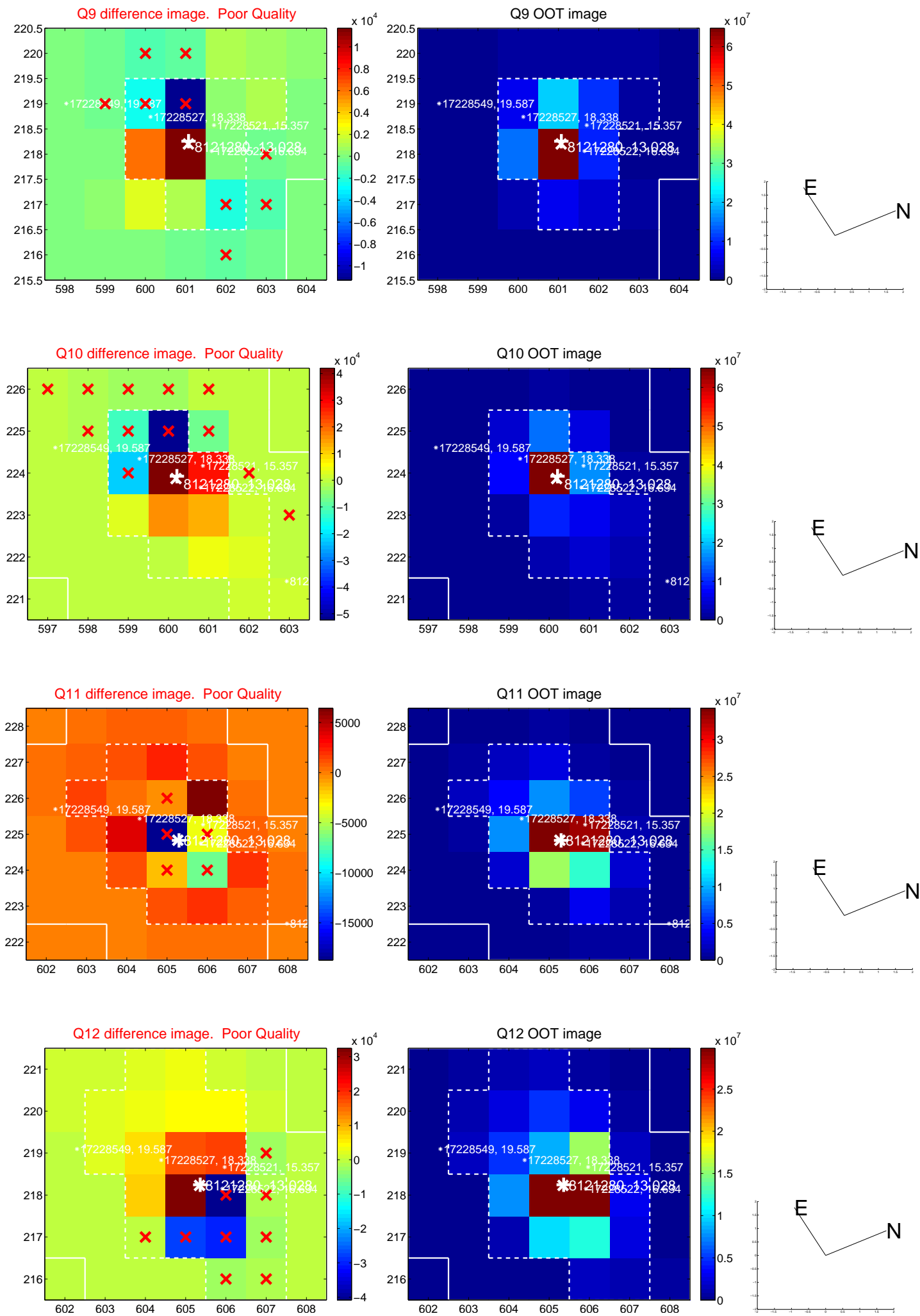


white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



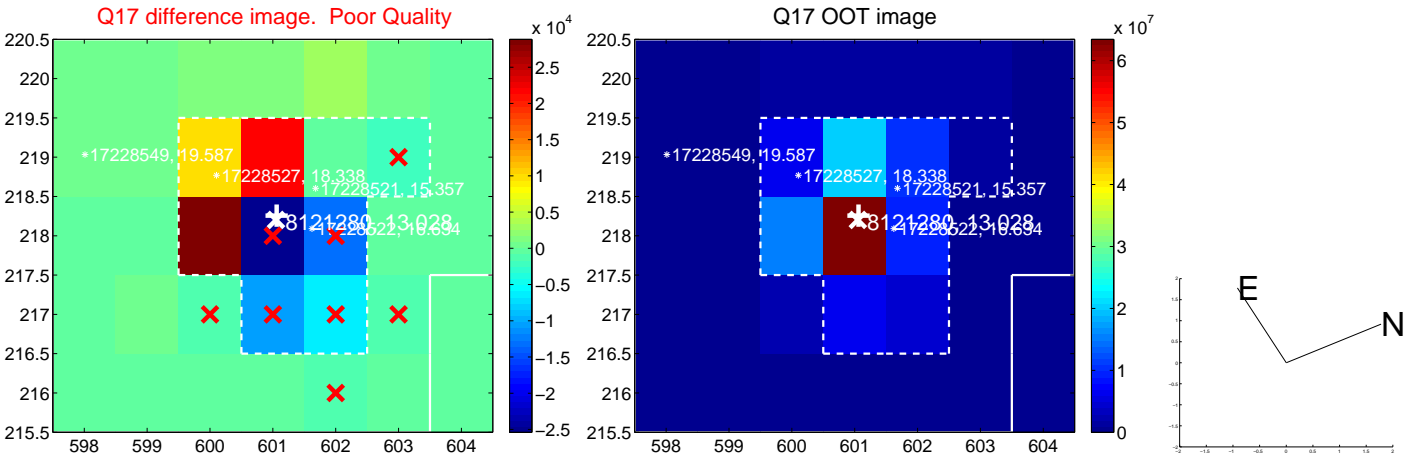


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.





white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

