

# KIC 008121328

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008121328-01	OBS	3486.01	19.069220	145.737804	148.1	10.260	15.0	15.6	0.89	5418	1.28	36.68

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008121328-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT

**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.

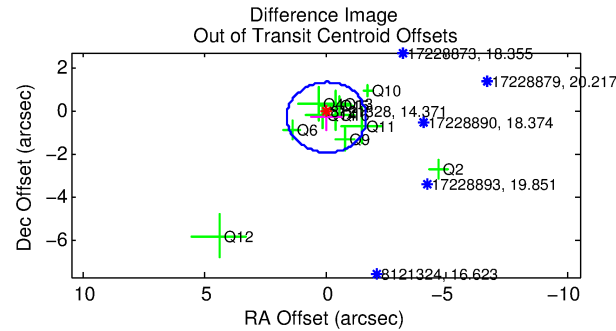
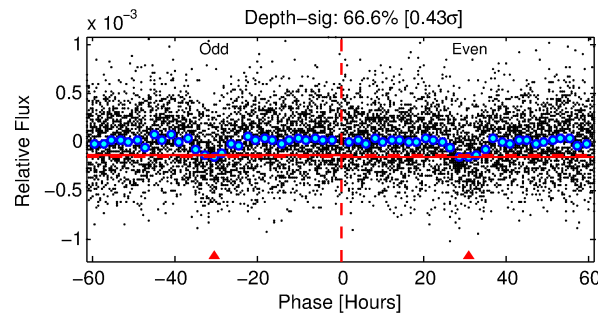
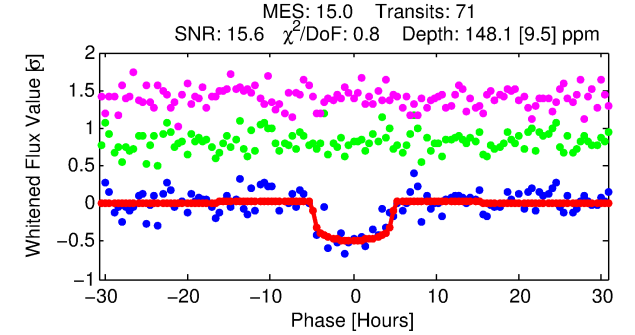
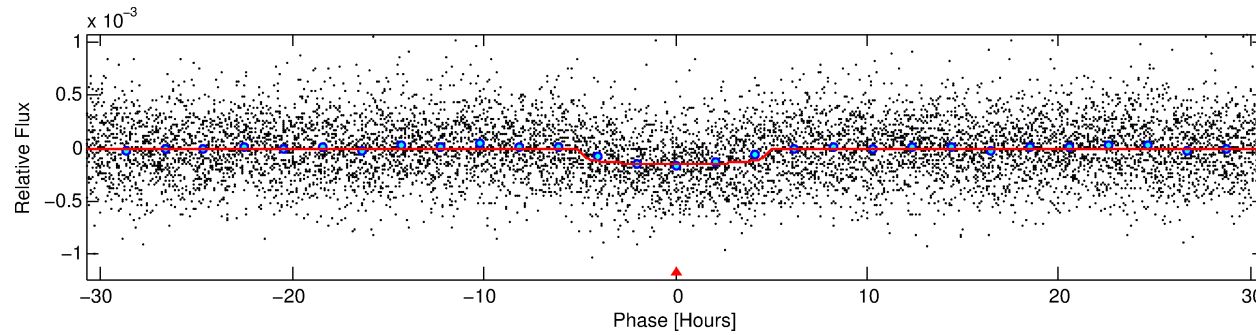
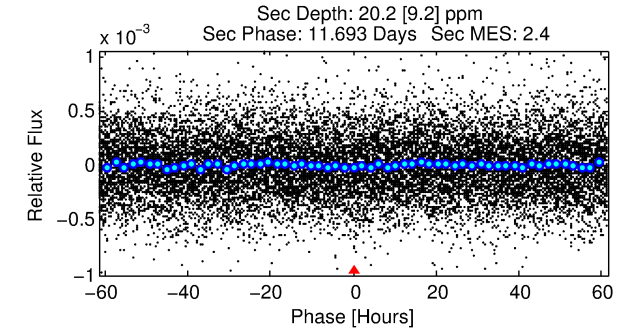
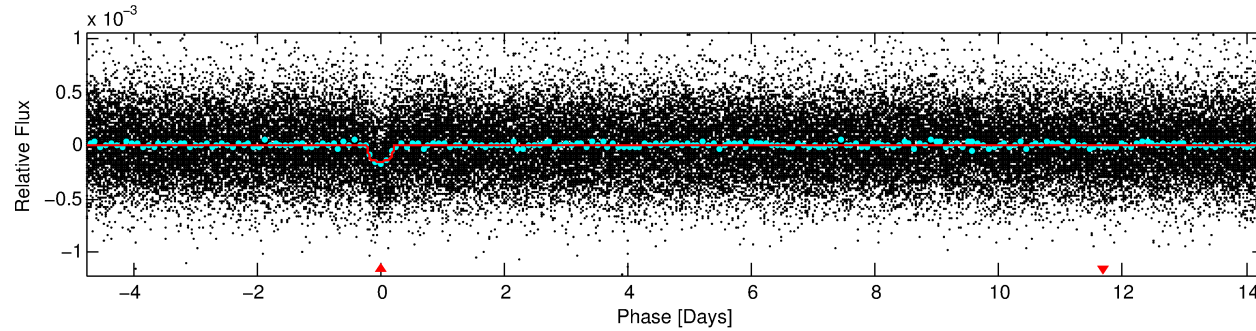
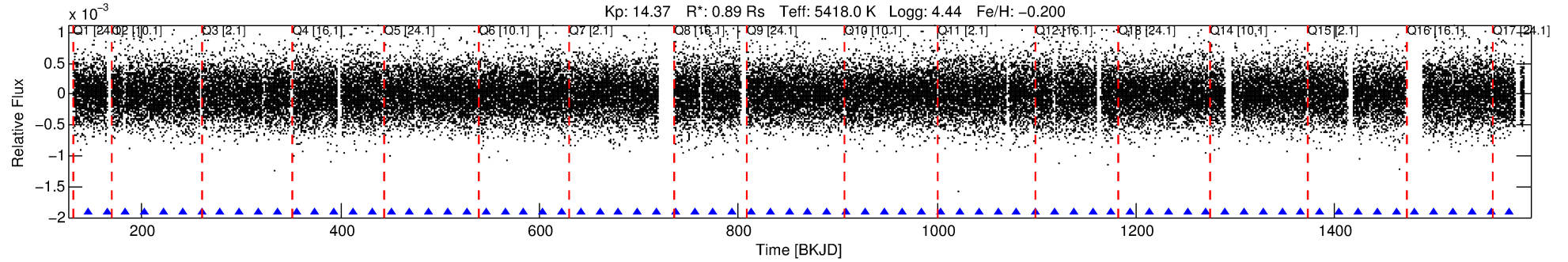
## Ephemeris Match Information For 008121328-01

No Significant Match Found

# DV One-Page Summary

KIC: 8121328 Candidate: 1 of 1 Period: 19.069 d

KOI: K03486.01 Corr: 0.935



## DV Fit Results:

Period = 19.06922 [0.00027] d  
Epoch = 145.7378 [0.0114] BKJD  
Rp/R\* = 0.0132 [0.0020]  
a/R\* = 6.92 [4.52]  
b = 0.89 [0.16]  
Seff = 36.68 [16.04]  
Teff = 628 [69] K  
Rp = 1.28 [0.40] Re  
a = 0.1290 [0.0341] AU  
Ag = 112.01 [77.55] [1.43σ]  
Teffp = 3156 [443] K [5.64σ]

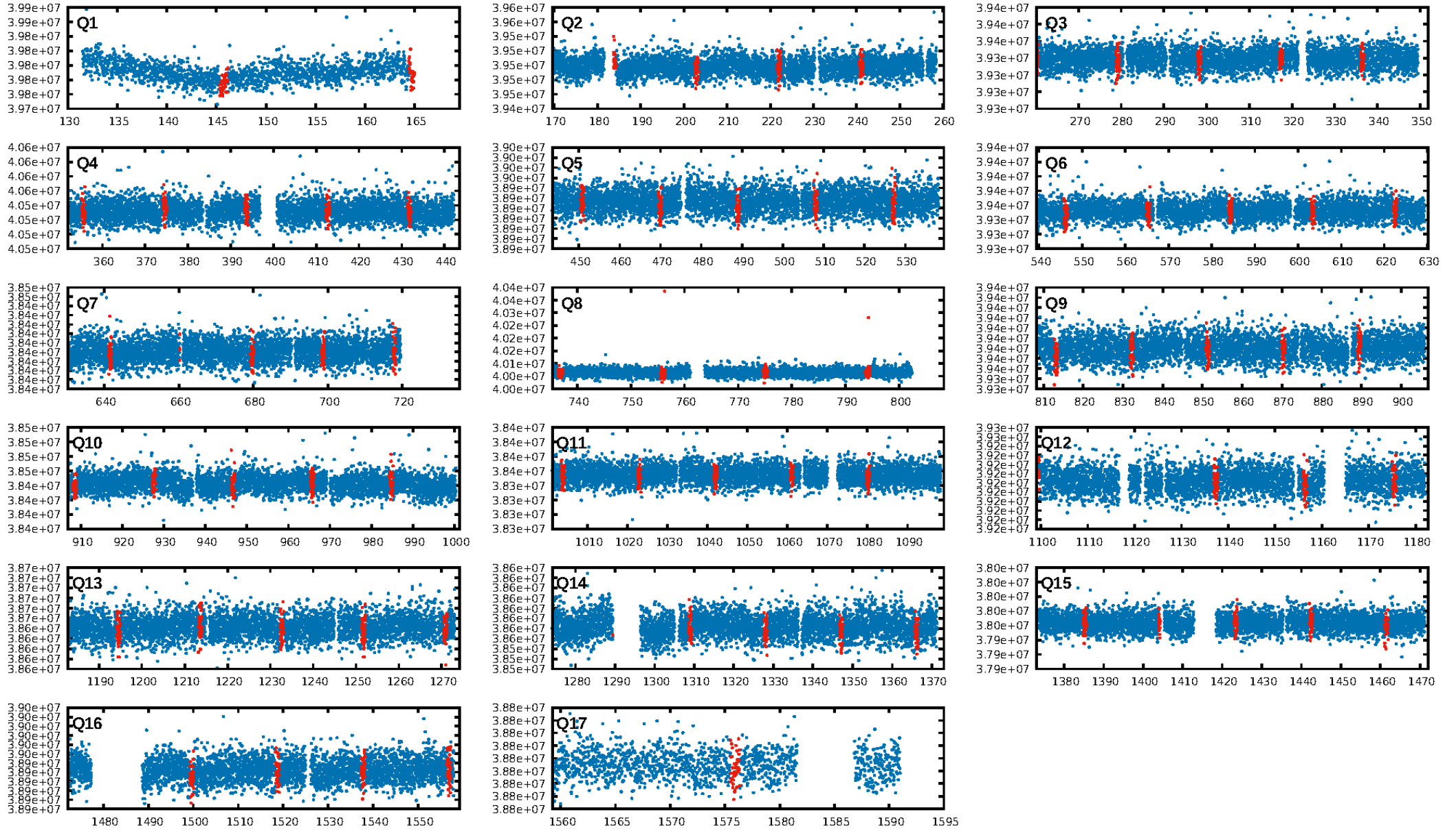
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 99.5%  
ModelChiSquareGof-sig: 100.0%  
Bootstrap-pfa: 1.08e-49  
RollingBand-fgt: 1.00 [68/68]  
GhostDiagnostic-chr: 54.84  
Centroid-sig: 92.7%  
Centroid-so: 0.139 arcsec [0.16σ]  
OotOffset-rm: 0.296 arcsec [0.54σ]  
KicOffset-rm: 0.825 arcsec [1.43σ]  
OotOffset-st: 4/2/3/2 [11]  
KicOffset-st: 4/2/3/2 [11]  
DiffImageQuality-fgm: 0.55 [6/11]  
DiffImageOverlap-fno: 1.00 [17/17]

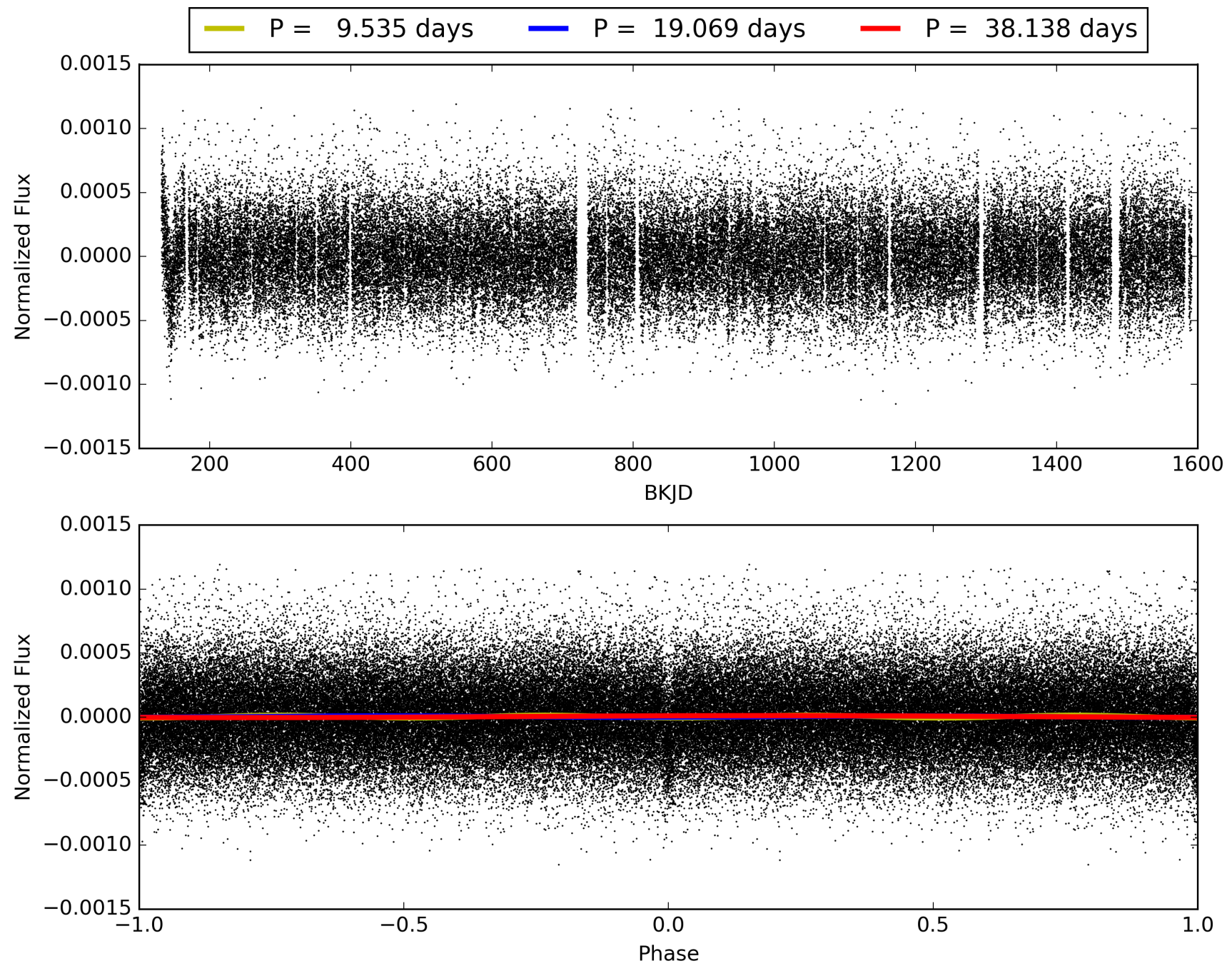
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 13:43:00 Z

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

# TCE 008121328-01, PDC Light Curves

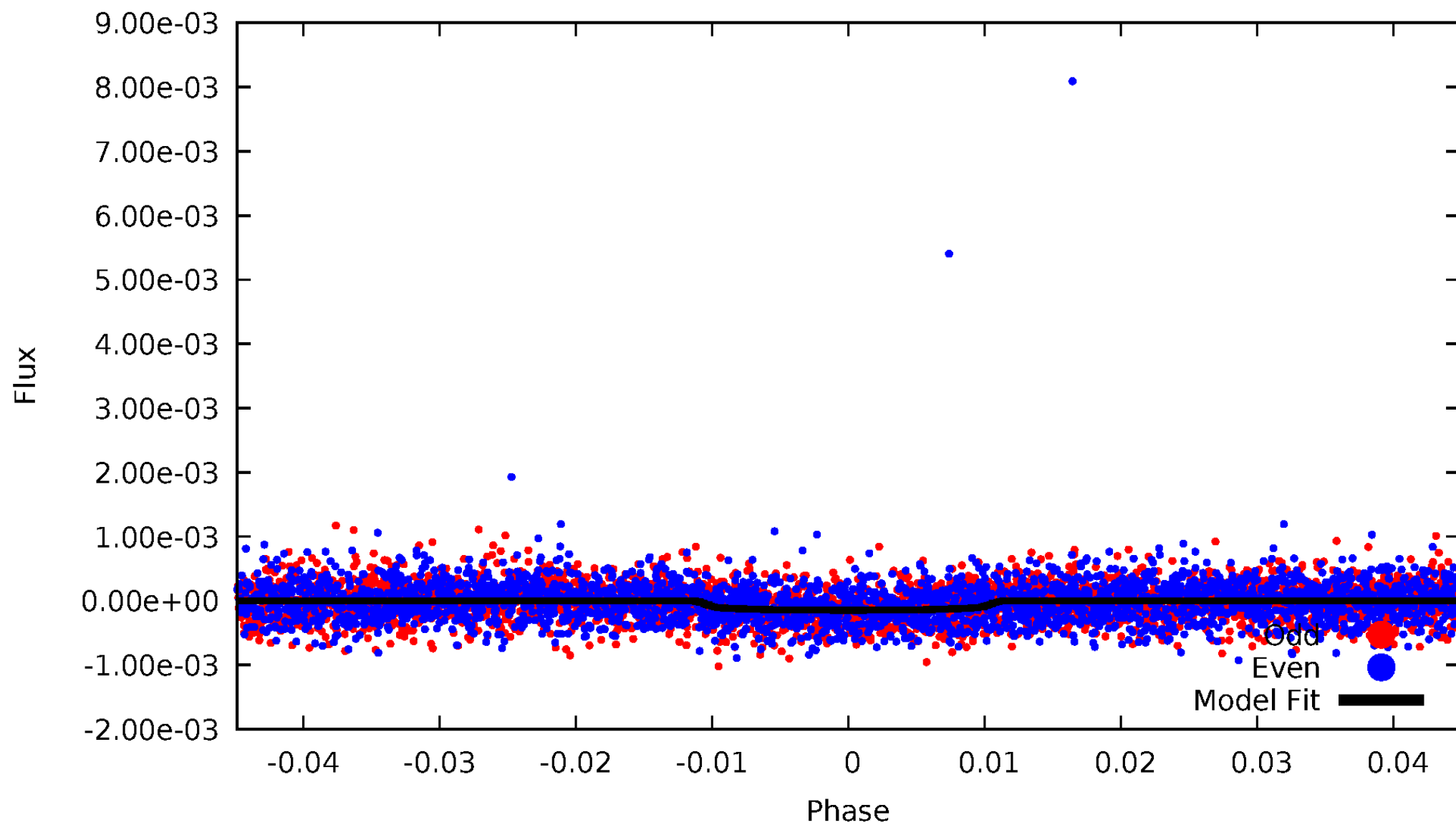


TCE 008121328-01



# DV Odd/Even

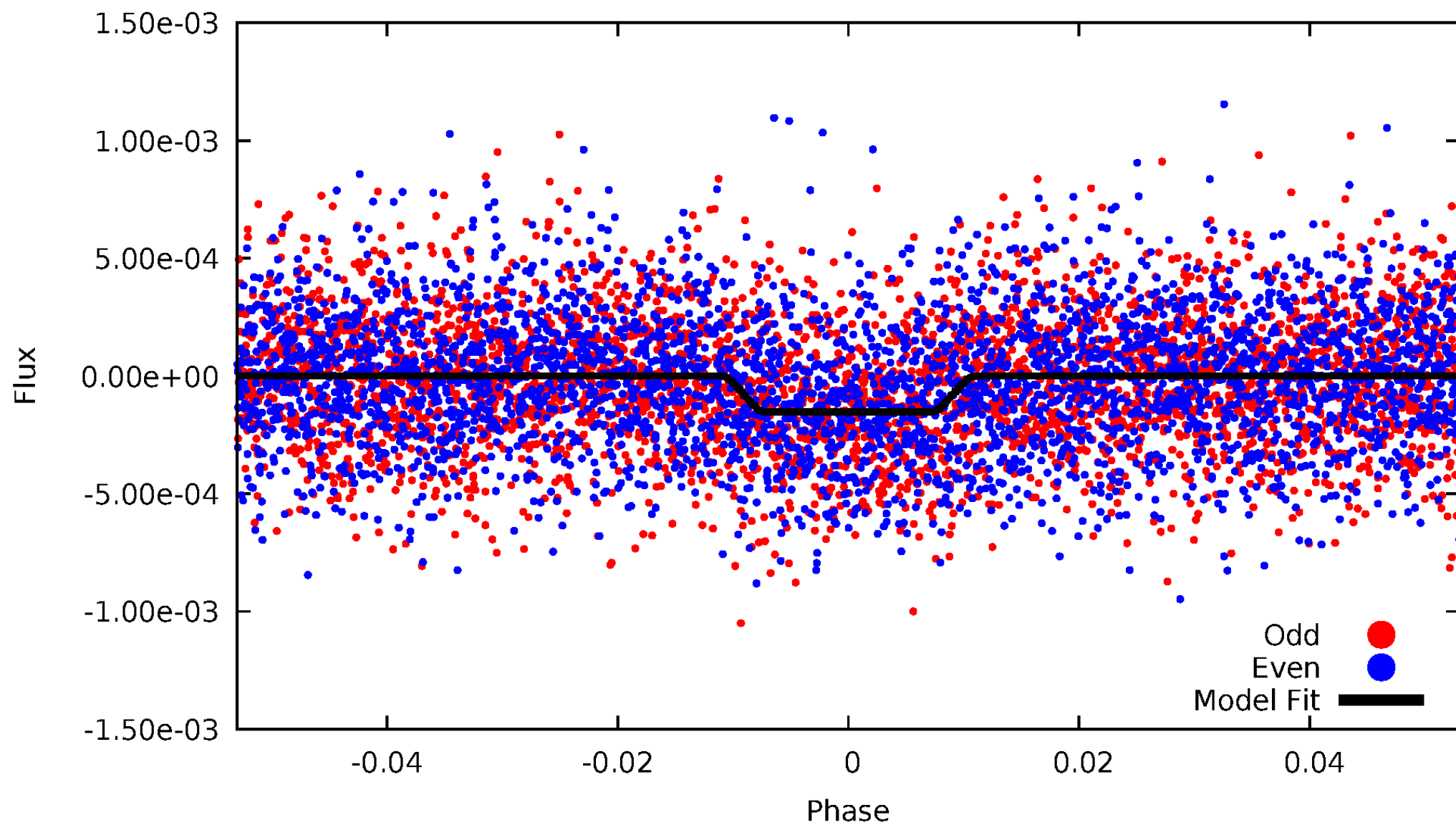
TCE 008121328-01



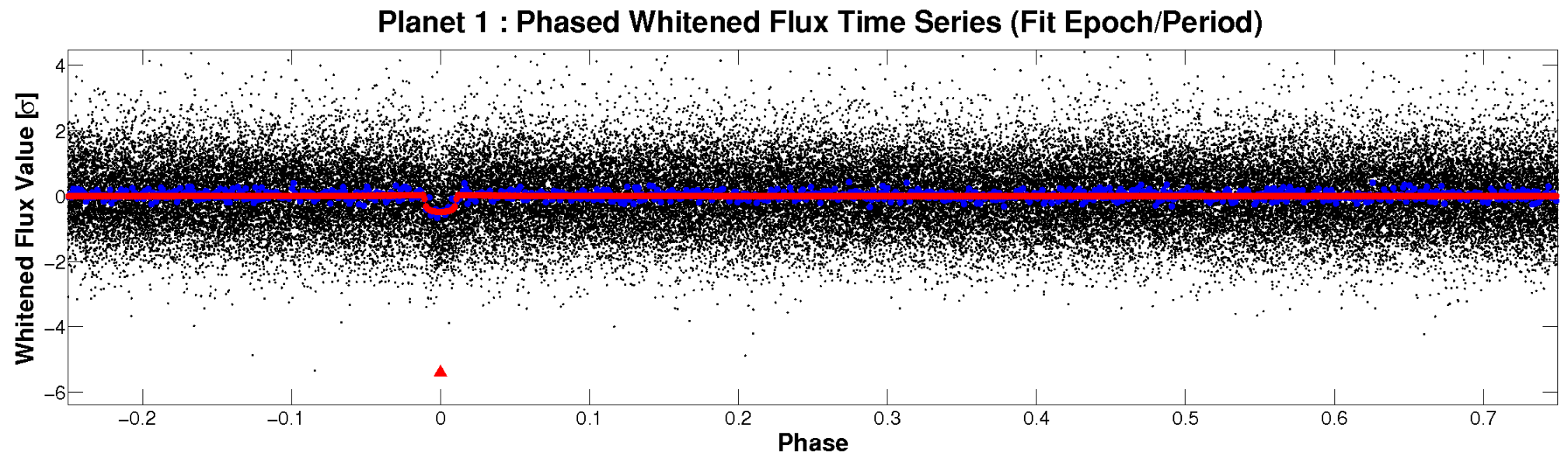
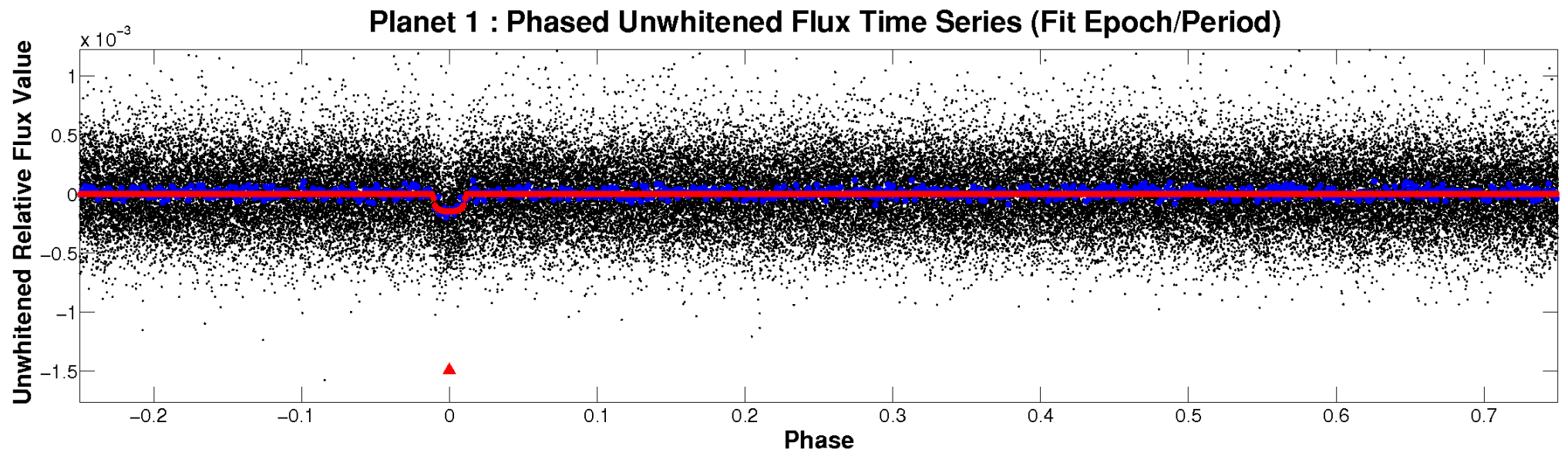


# ALT Odd/Even

TCE 008121328-01

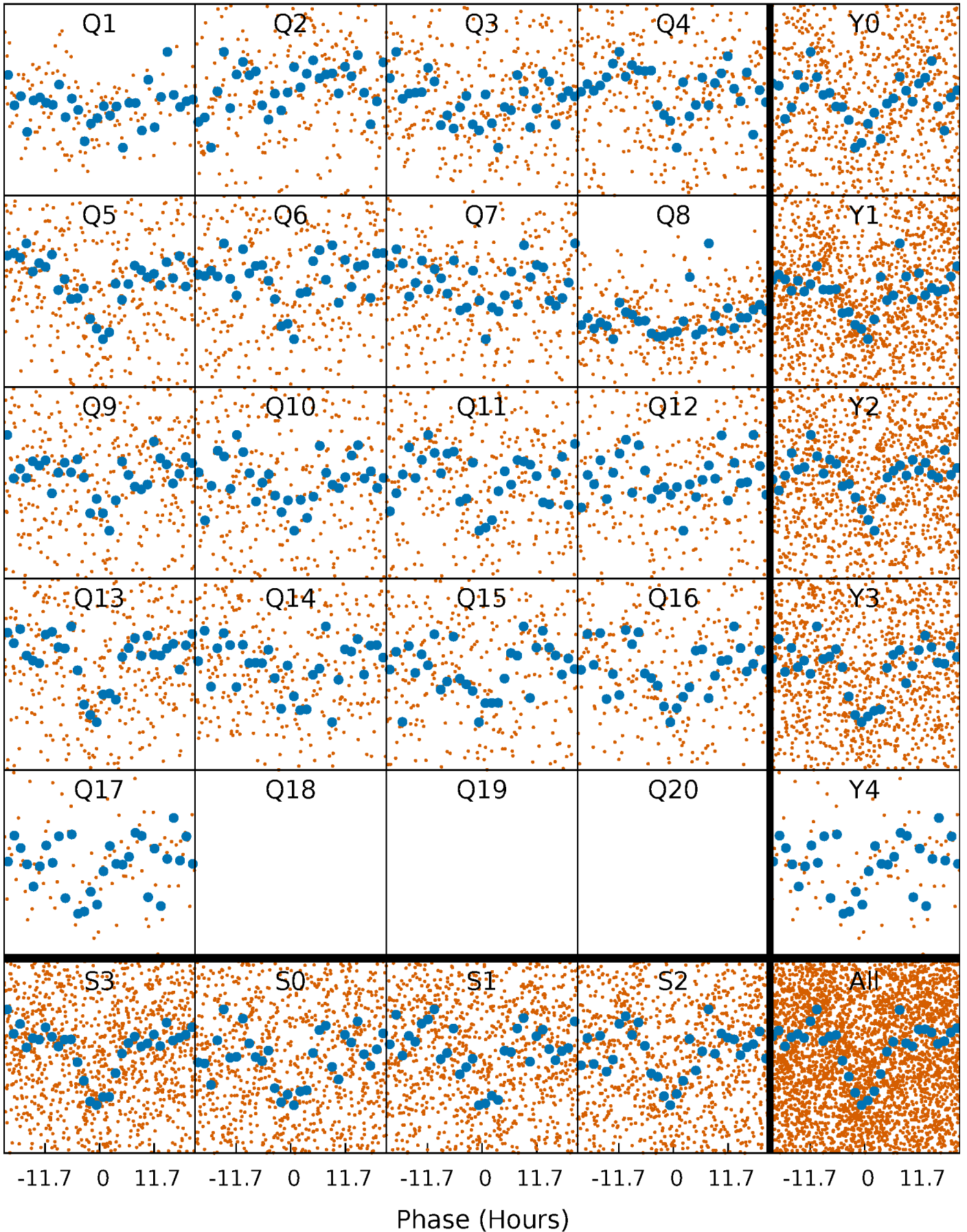


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

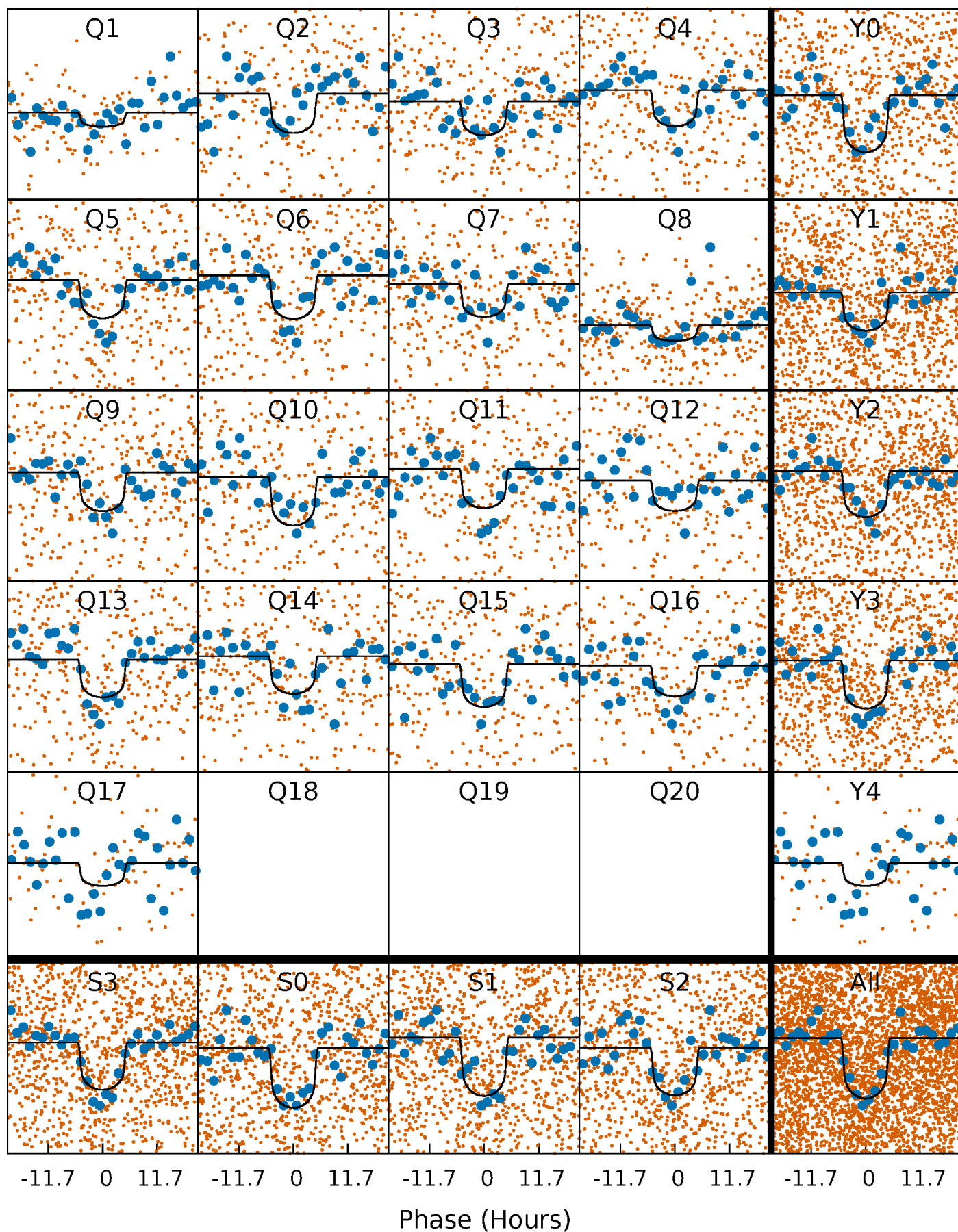
TCE 008121328-01 P= 19.069220 Days  $T_0=145.737804$  (BKJD)





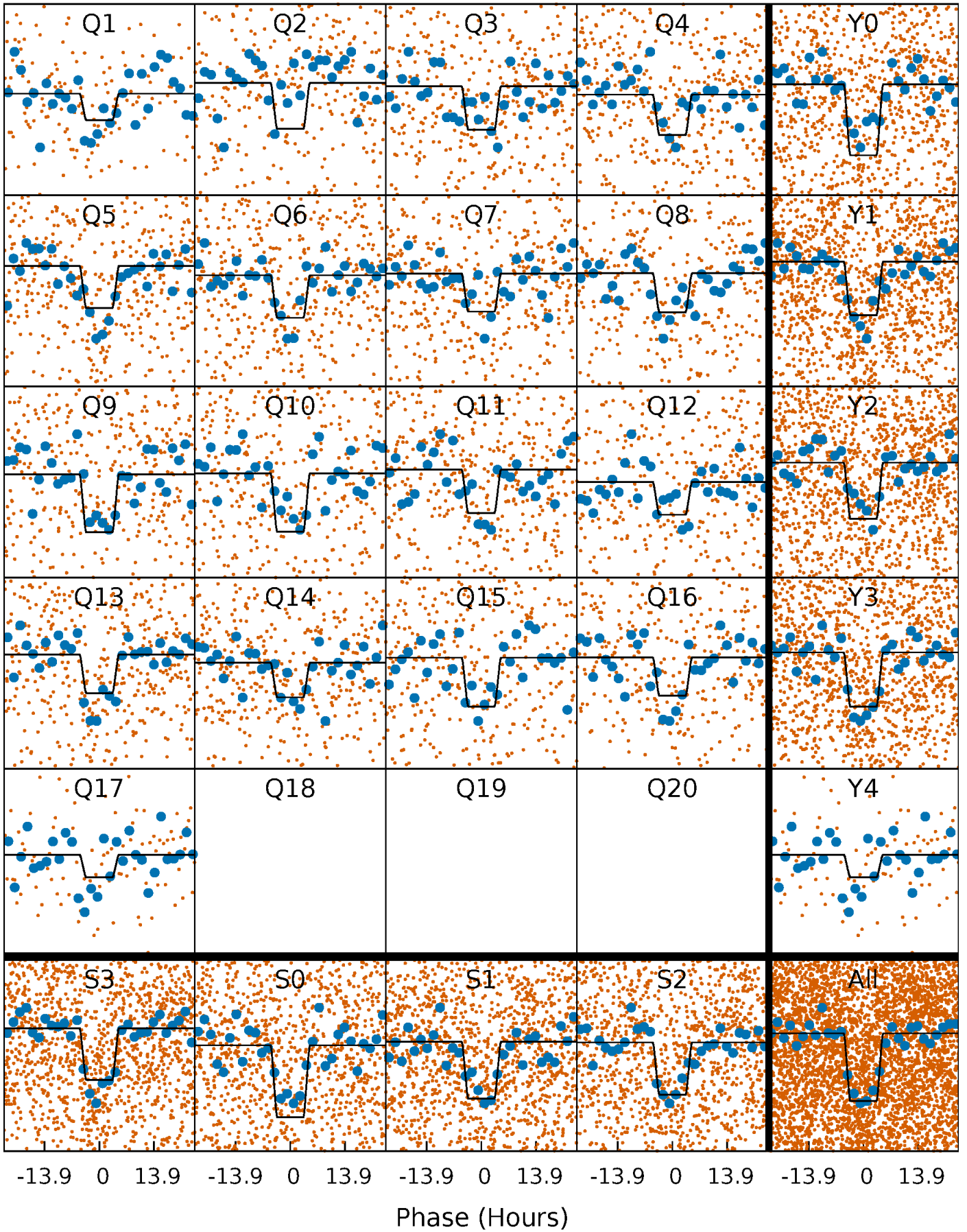
# DV Quarter-Phased Transit Curves

TCE 008121328-01 P= 19.069220 Days  $T_0=145.737804$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

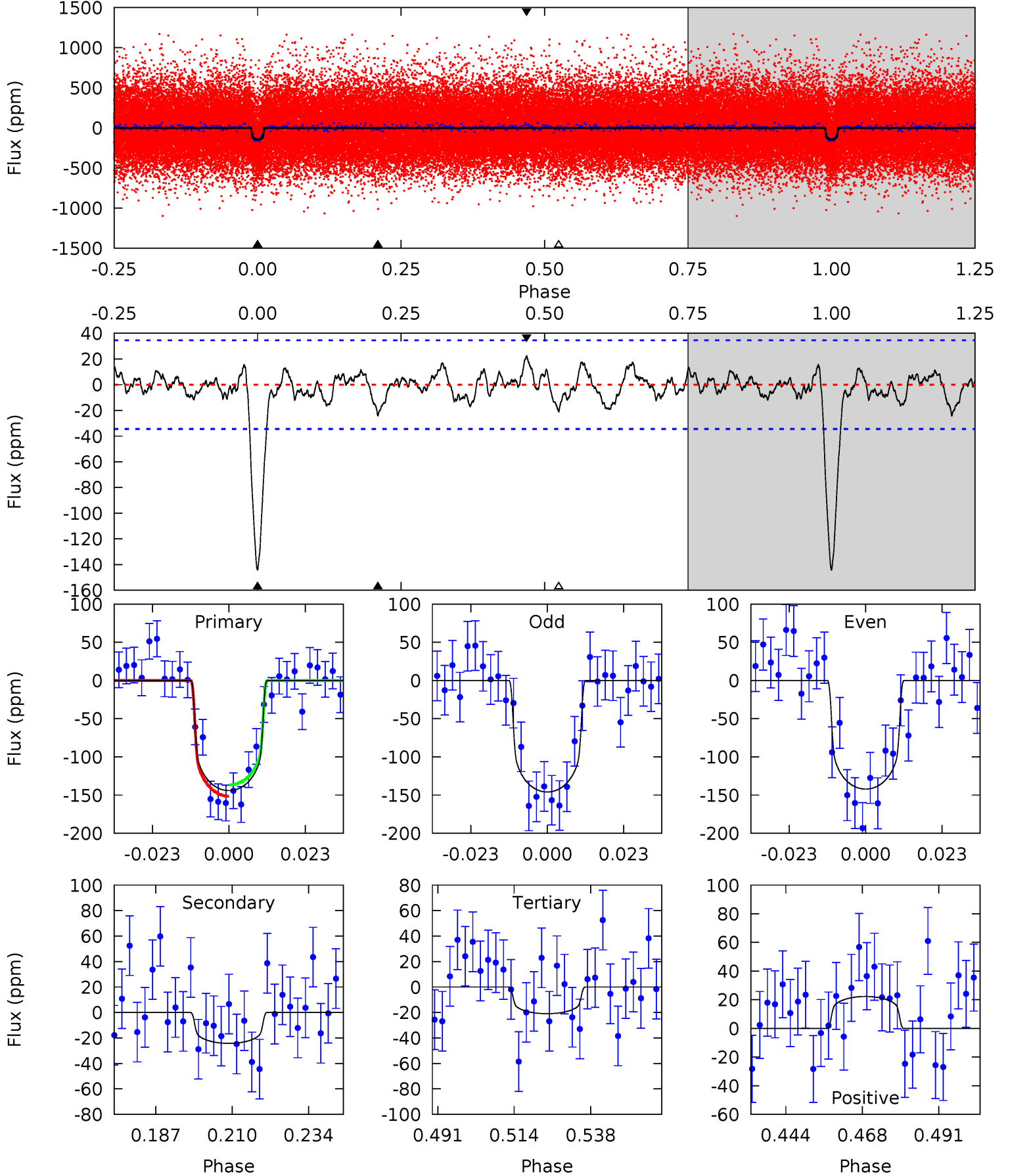
TCE 008121328-01   P= 19.069454 Days    $T_0=145.726064$  (BKJD)



# DV Model-Shift Uniqueness Test

008121328-01,  $P = 19.069220$  Days,  $E = 126.668584$  Days

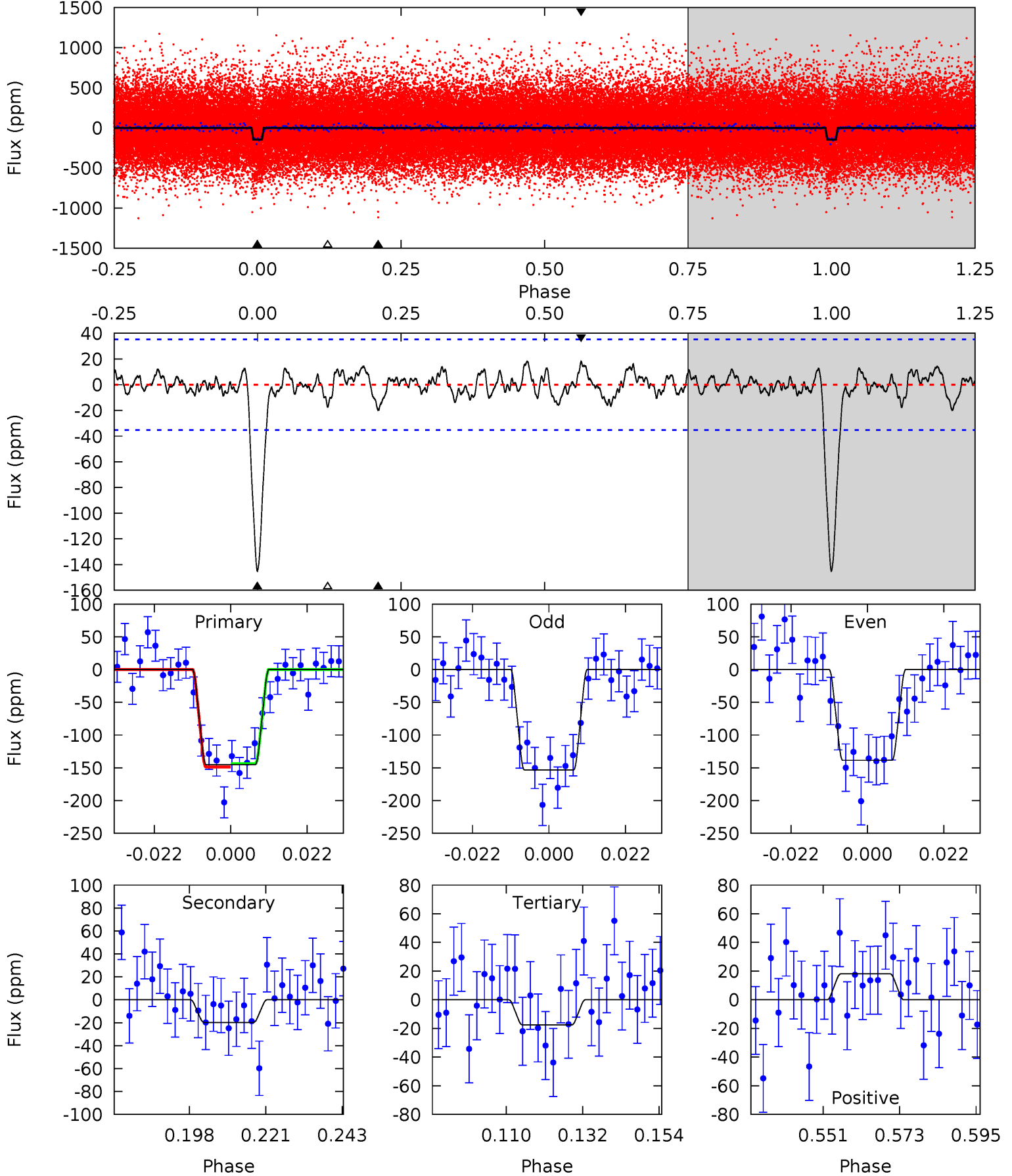
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
20.3	3.42	2.95	3.14	4.86	2.27	1.12	17.4	17.2	0.47	0.28	0.27	1.01	0.13	1.04



# Alt Model-Shift Uniqueness Test

008121328-01,  $P = 19.069454$  Days,  $E = 126.656610$  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
20.1	2.74	2.42	2.50	4.87	2.29	0.95	17.6	17.6	0.31	0.24	1.01	1.02	0.11	0.36





### Stellar Parameters For KIC 008121328

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5418^{+159}_{-159}$	$4.436^{+0.133}_{-0.247}$	$-0.200^{+0.350}_{-0.250}$	$0.889^{+0.245}_{-0.132}$	$0.788^{+0.122}_{-0.061}$	$1.577^{+0.974}_{-0.847}$
	+3%/-3%	+3%/-6%	+175%/-125%	+28%/-15%	+15%/-8%	+62%/-54%
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 008121328-01 / KOI 3486.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-24 \pm 7$	$1.34^{+0.31}_{-0.26}$	$890^{+71}_{-55}$	$3693^{+280}_{-265}$	$123^{+76}_{-50}$
Alt.	$-20 \pm 7$	$1.22^{+0.29}_{-0.23}$	$884^{+76}_{-52}$	$3655^{+323}_{-323}$	$118^{+87}_{-55}$

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

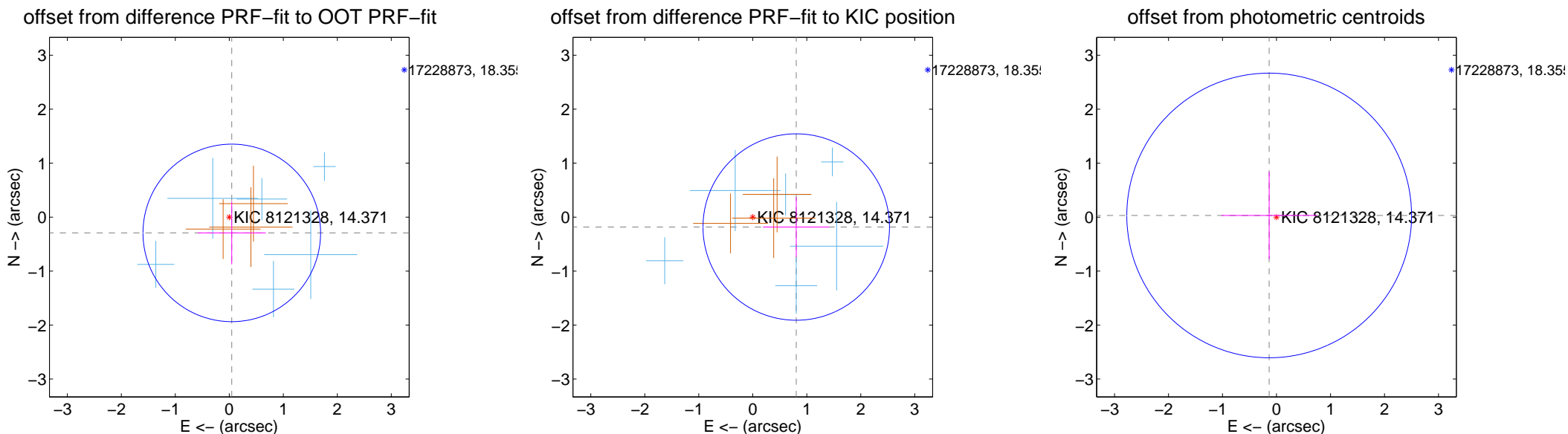
## DV Centroid Data

Supplemental centroid analysis for 008121328-01. Kepler magnitude: 14.37. Transit SNR 15.63

There are 6 quarters with good PRF difference image offsets

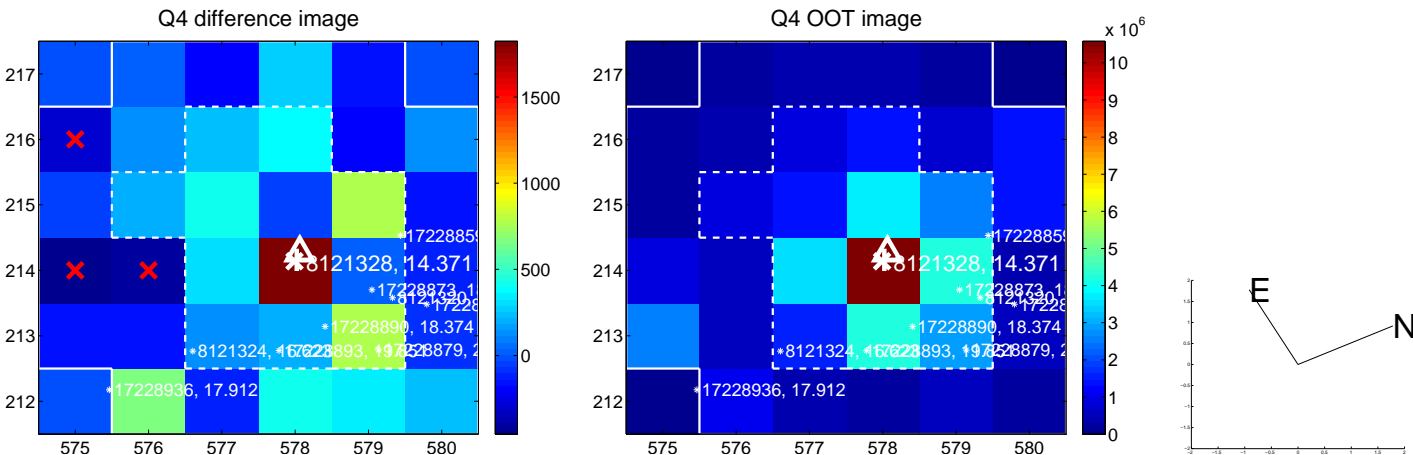
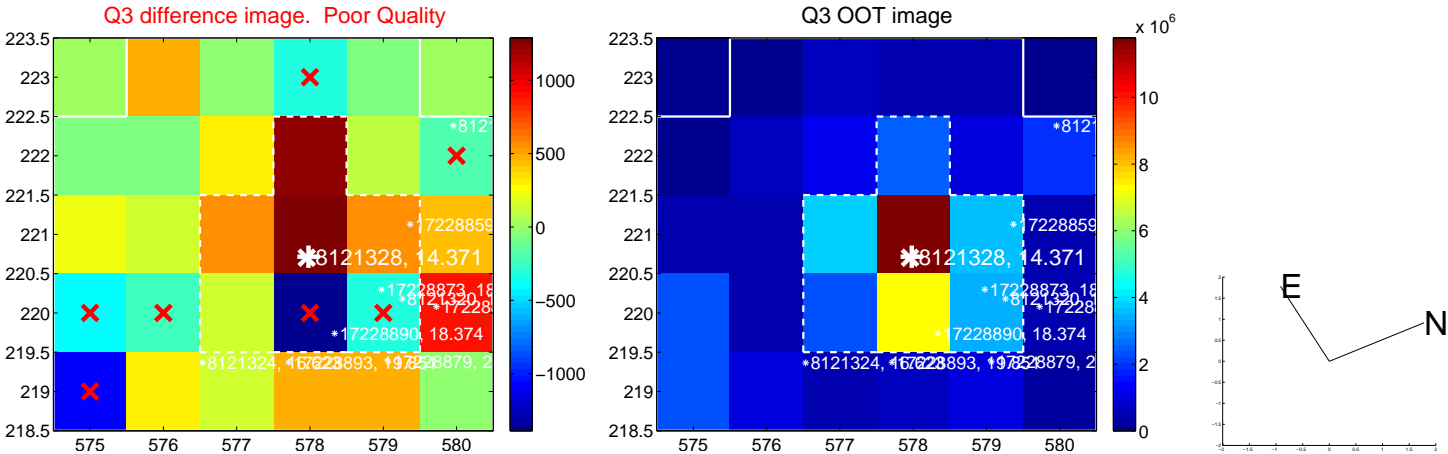
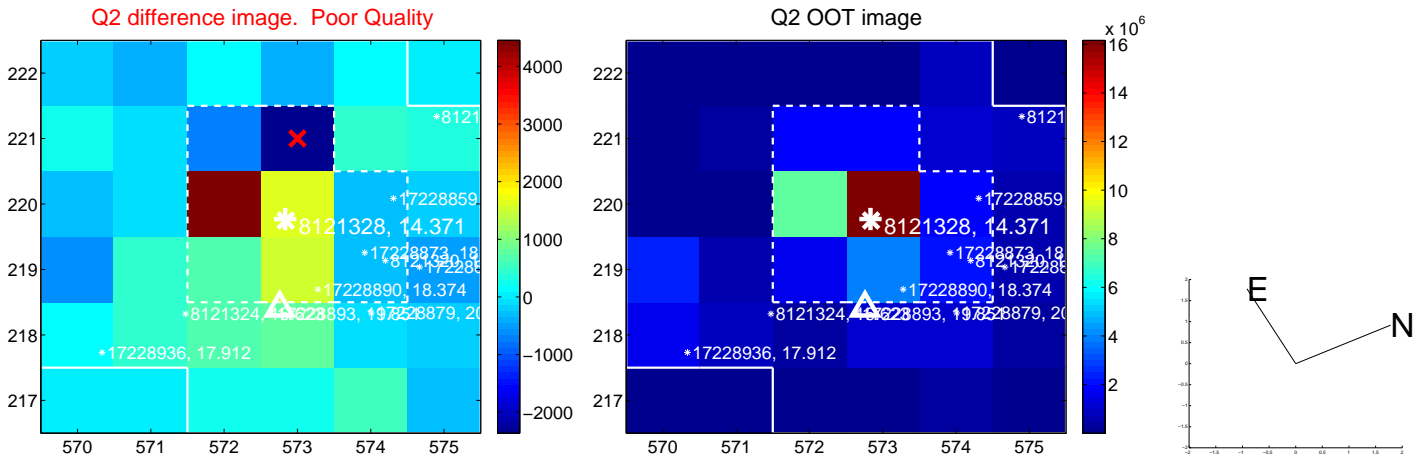
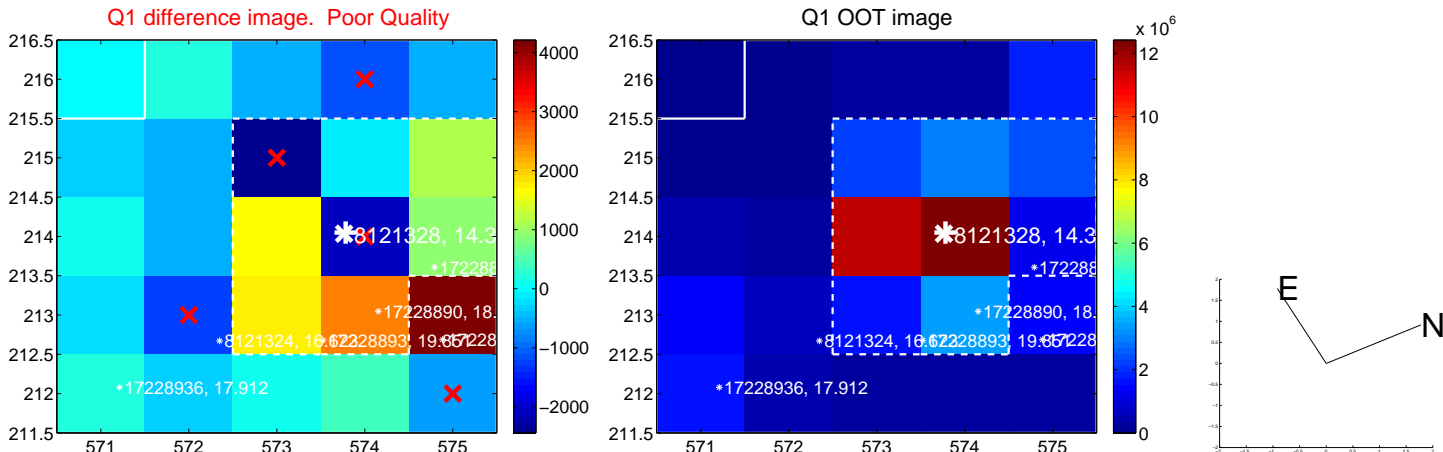
The direct PRF centroid is offset from the target star catalog position by about 0.17 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.296 \pm 0.548$	0.54	$-0.046 \pm 0.631$	$-0.292 \pm 0.583$
PRF-fit source offset from KIC position	$0.825 \pm 0.576$	1.43	$-0.805 \pm 0.615$	$-0.184 \pm 0.554$
photometric centroid source offset	$0.14 \pm 0.88$	0.16	$0.14 \pm 0.88$	$0.03 \pm 0.81$

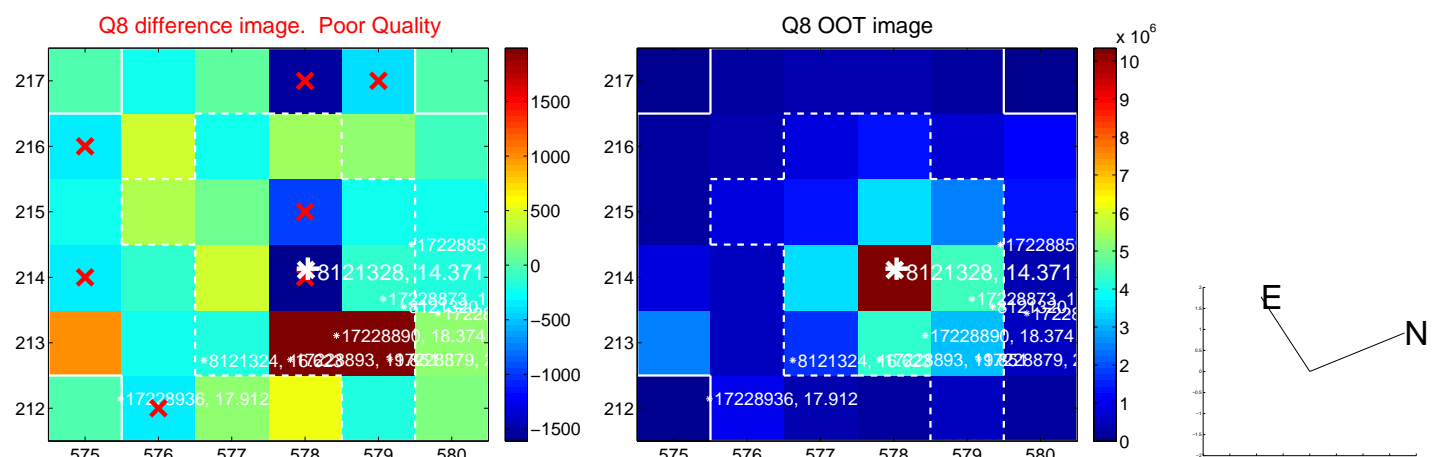
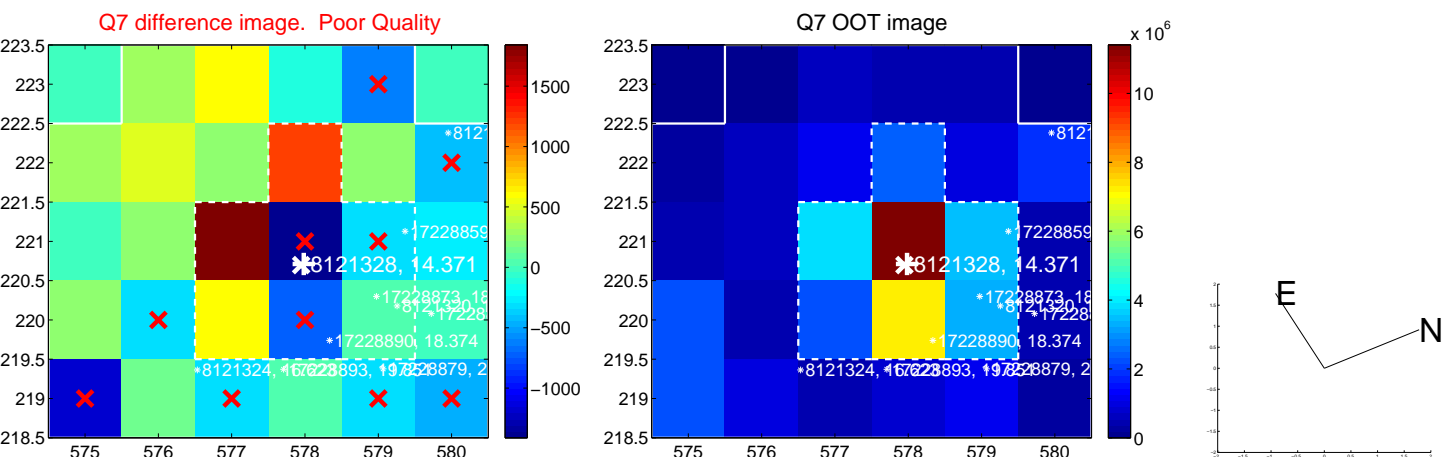
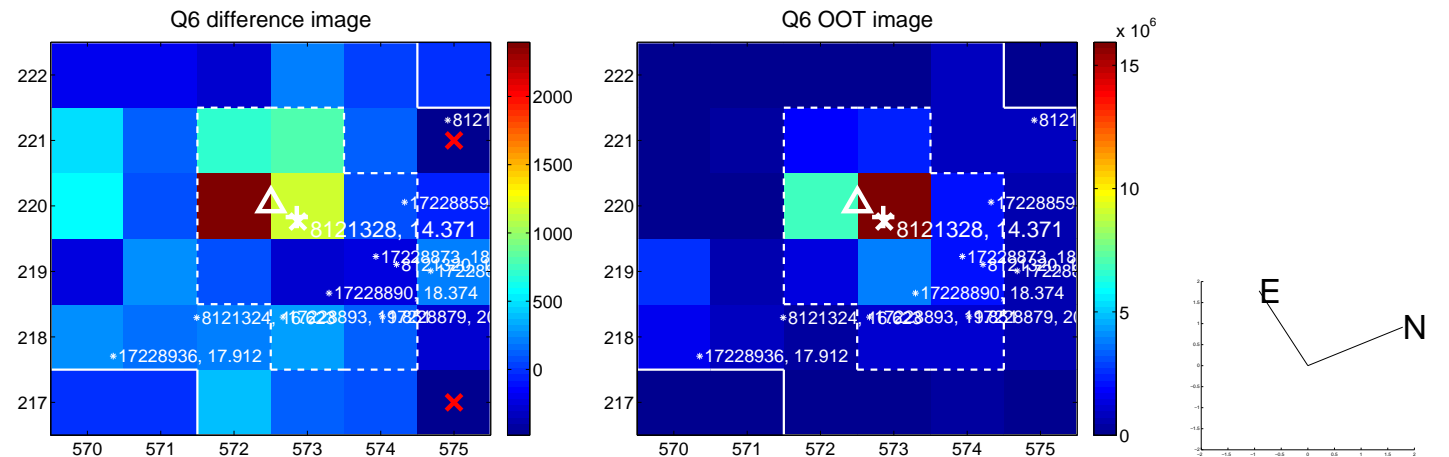
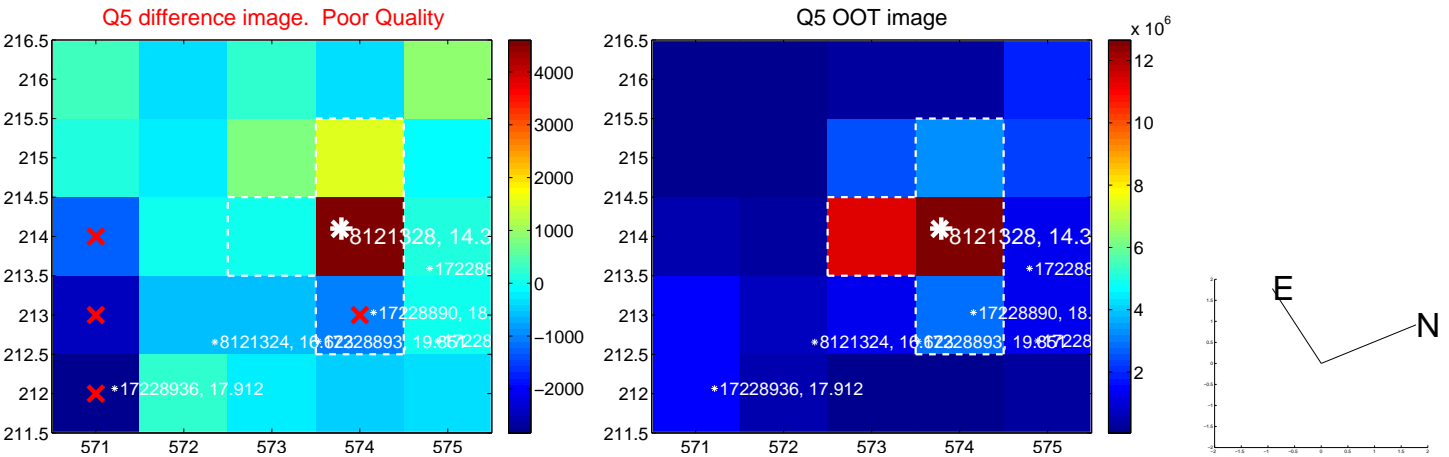


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

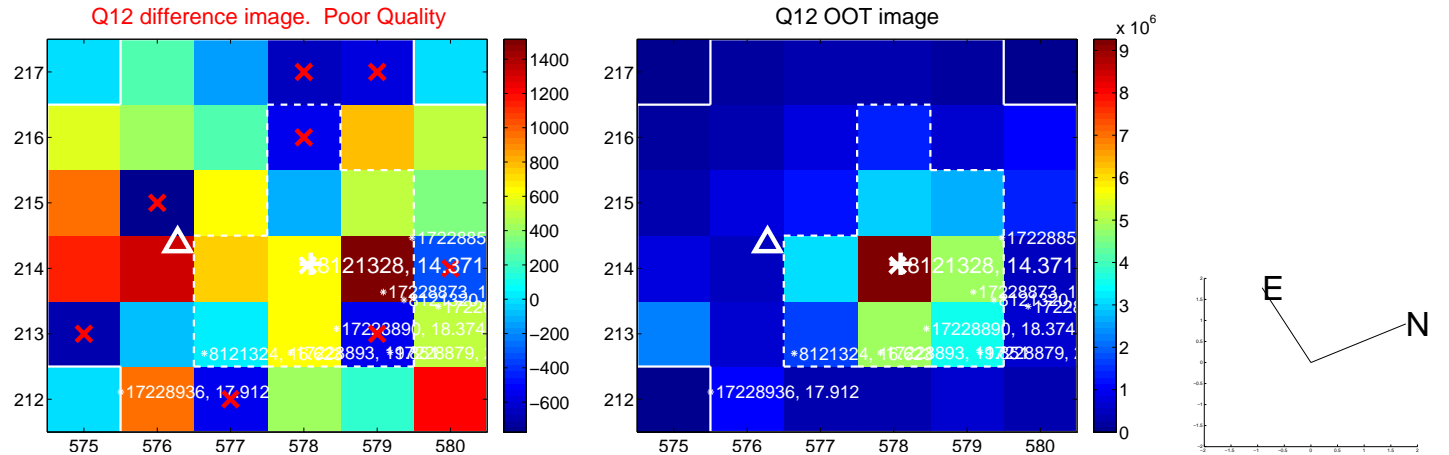
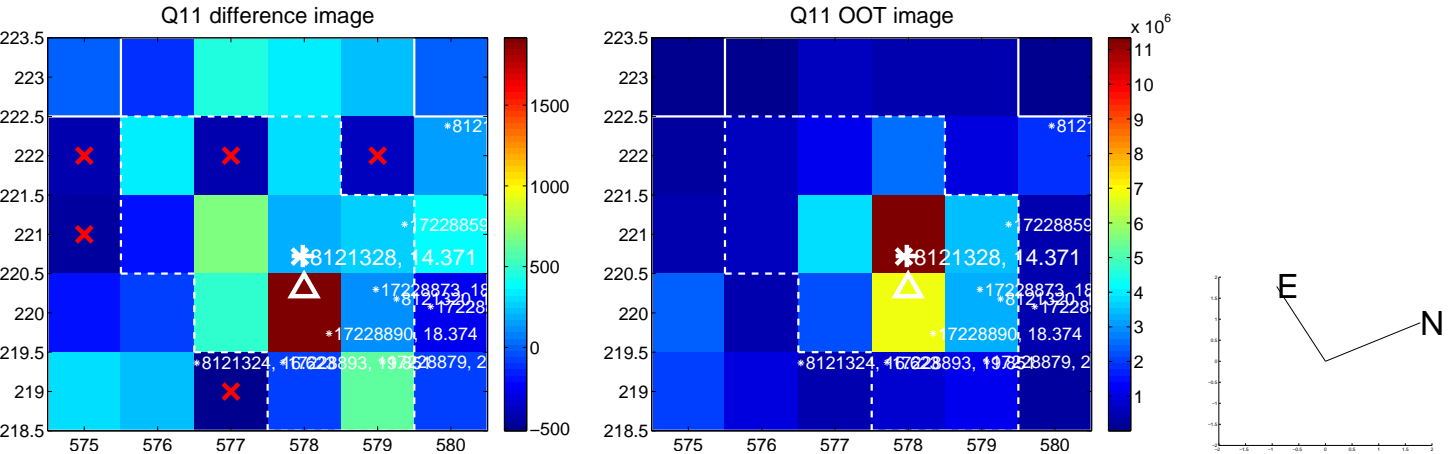
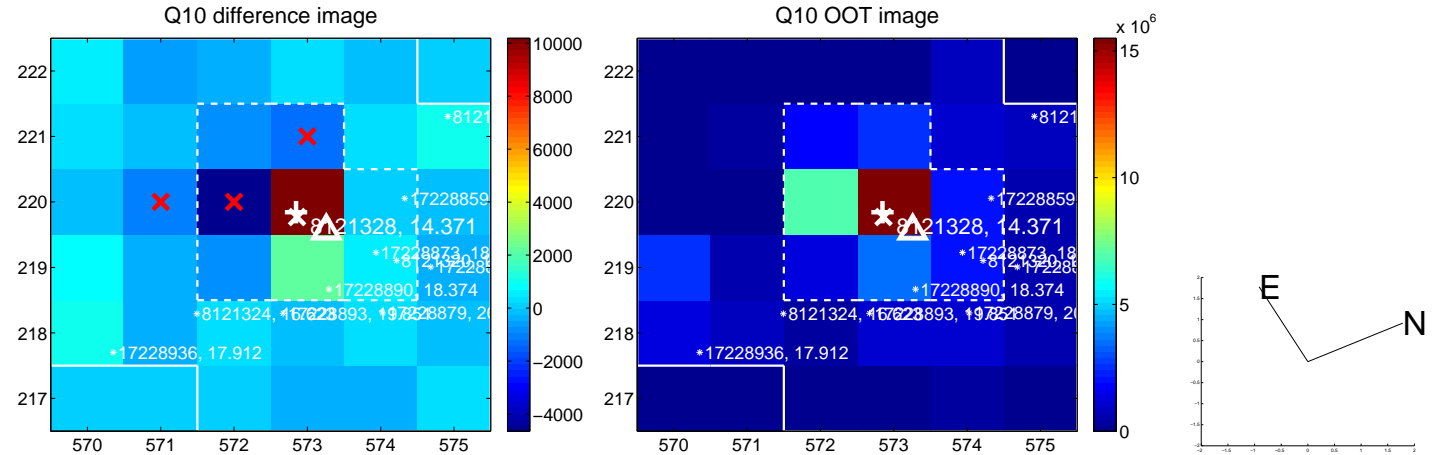
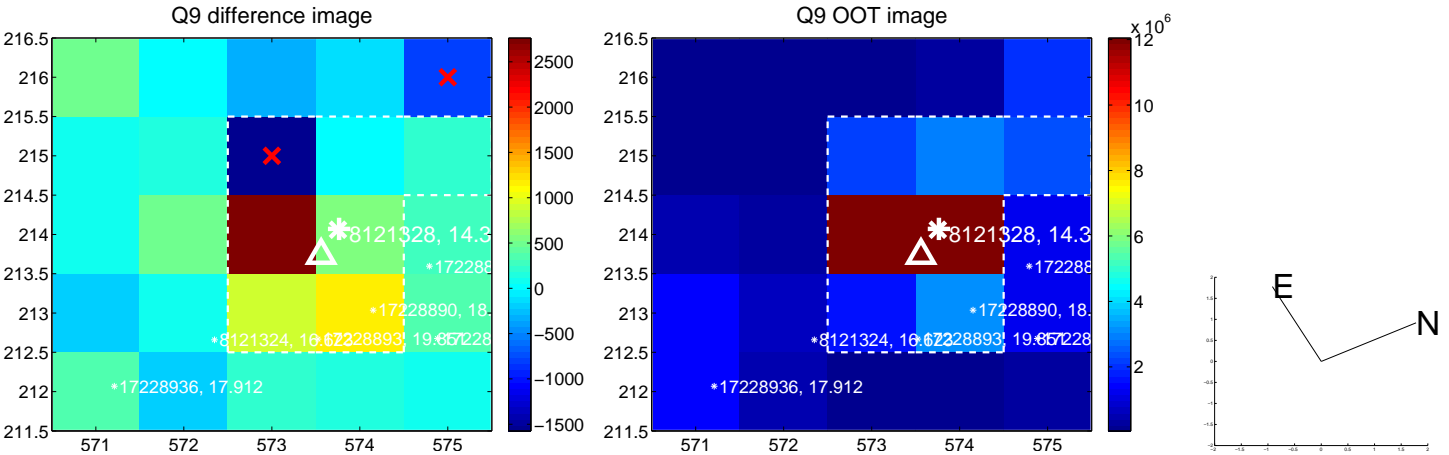


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

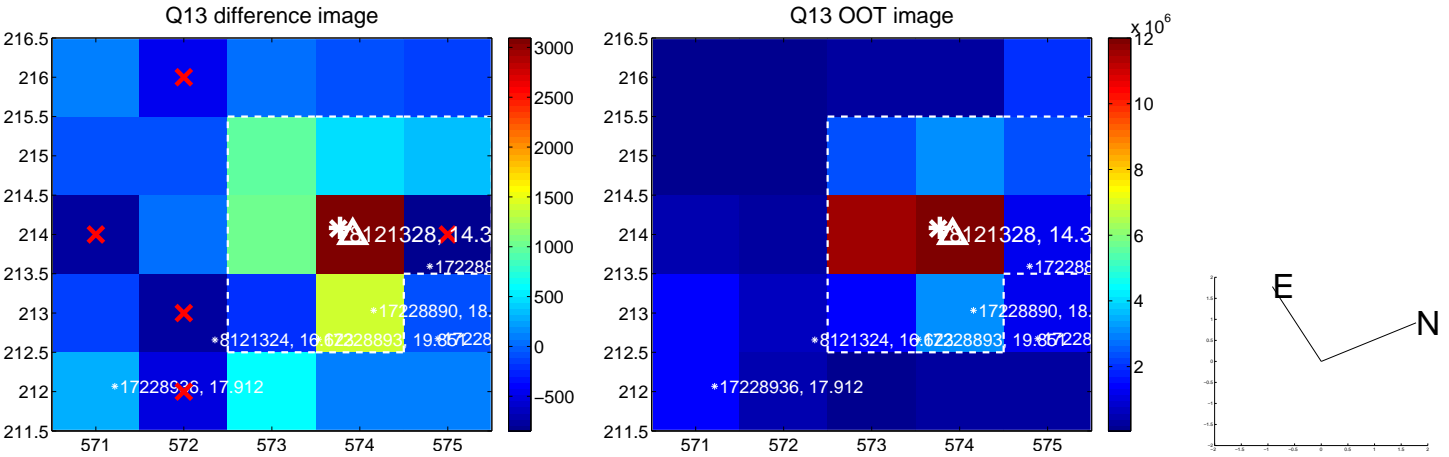




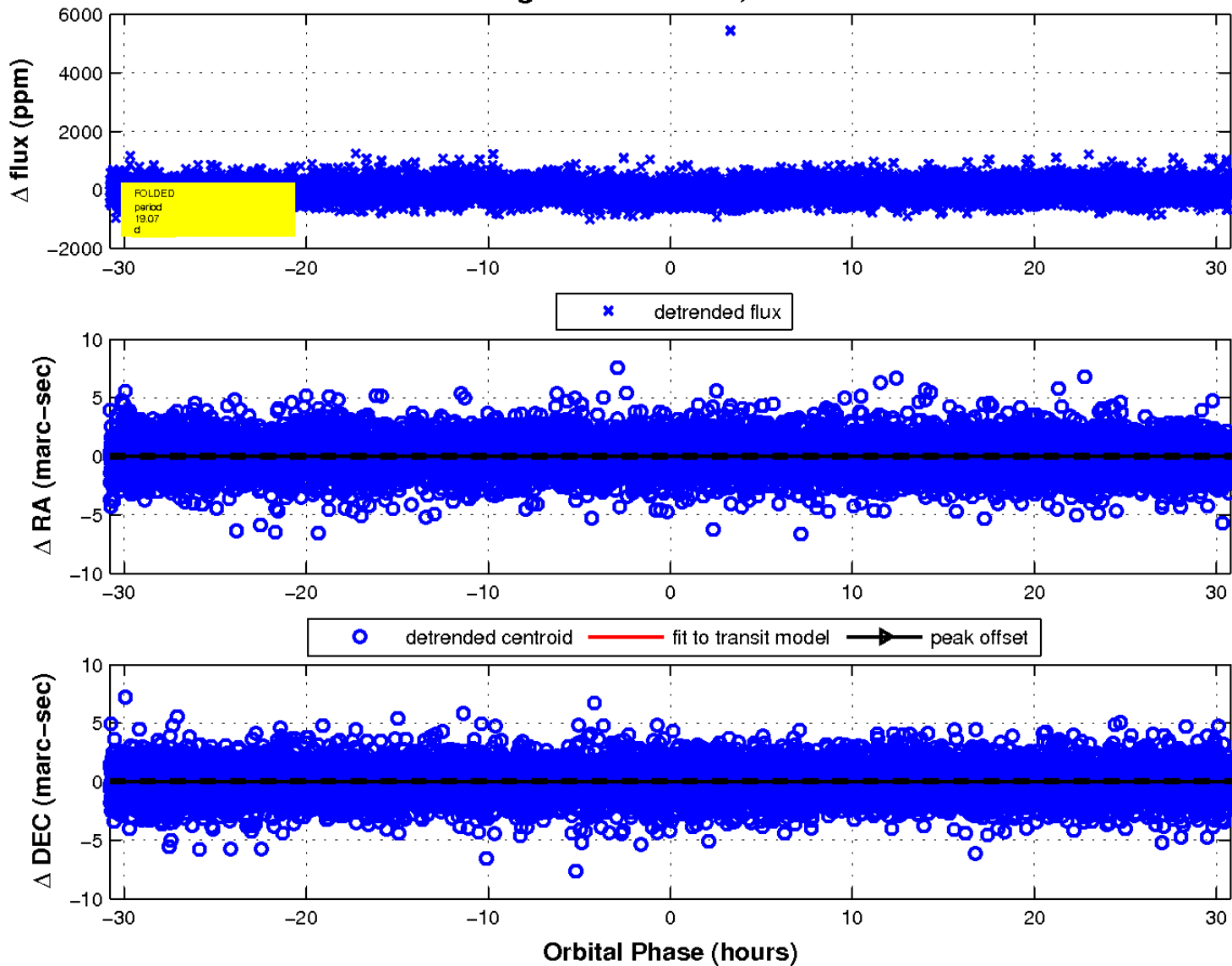
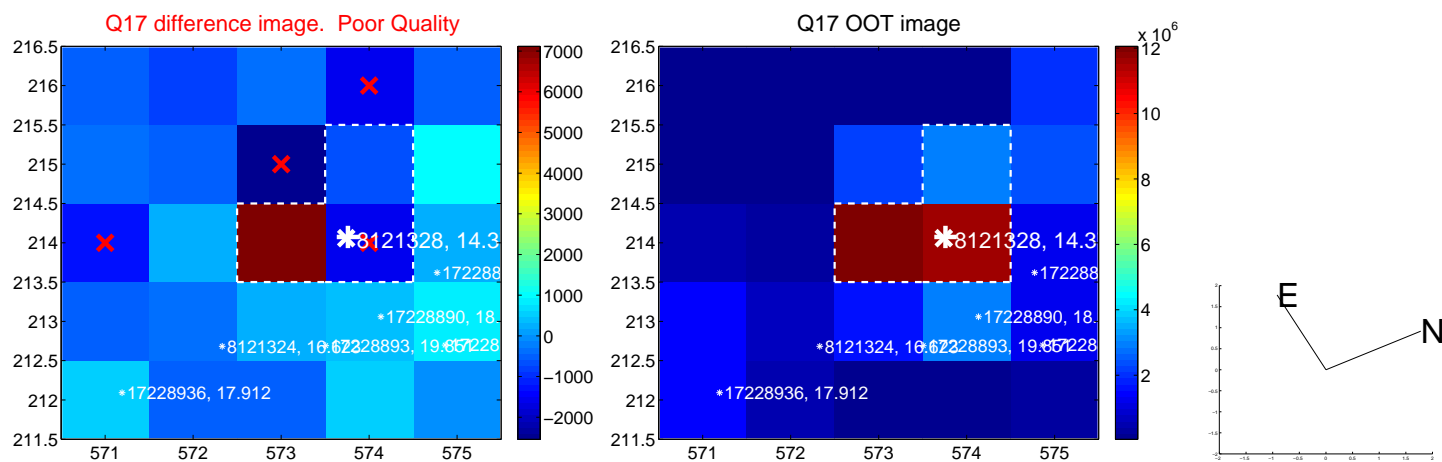
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

