

# KIC 011618569

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
011618569-01	OBS	4792.01	5.758975	132.166346	70.7	2.899	8.5	9.4	1.07	6247	1.06	362.76

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
011618569-01	OBS	PC	0.99	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.

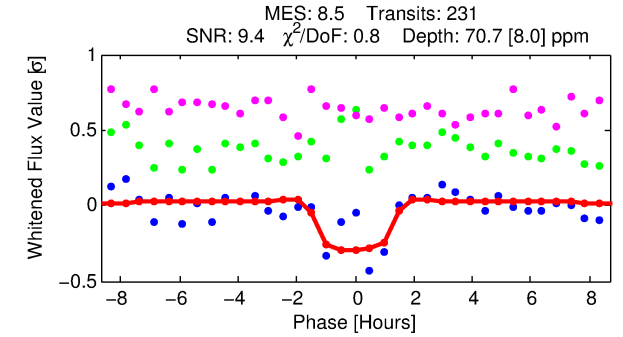
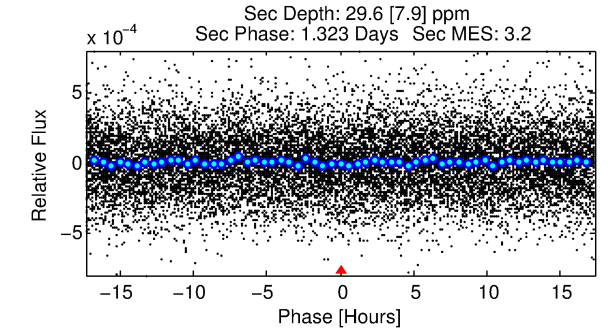
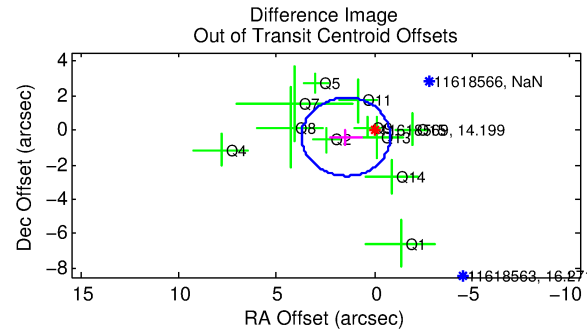
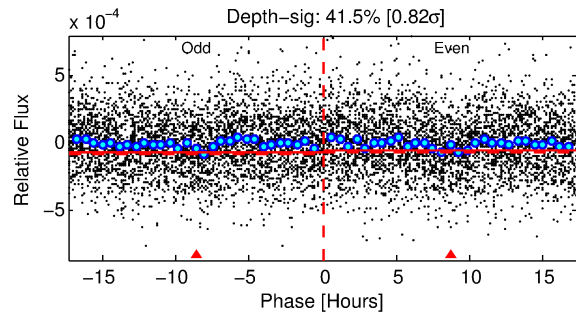
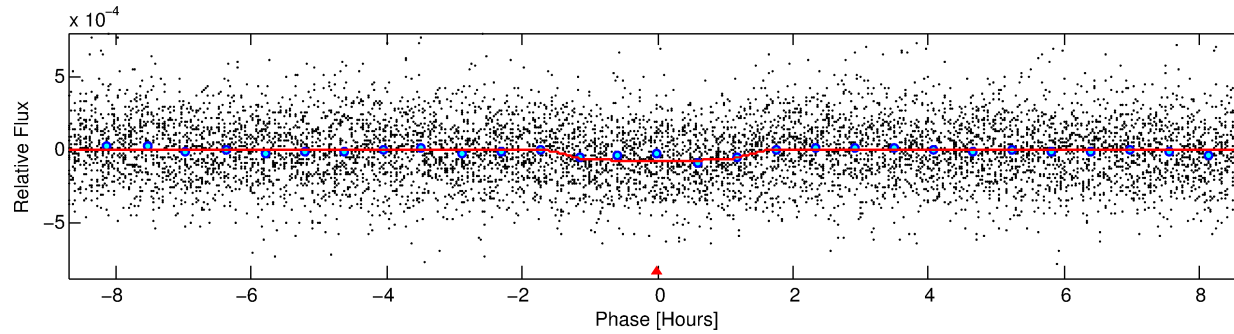
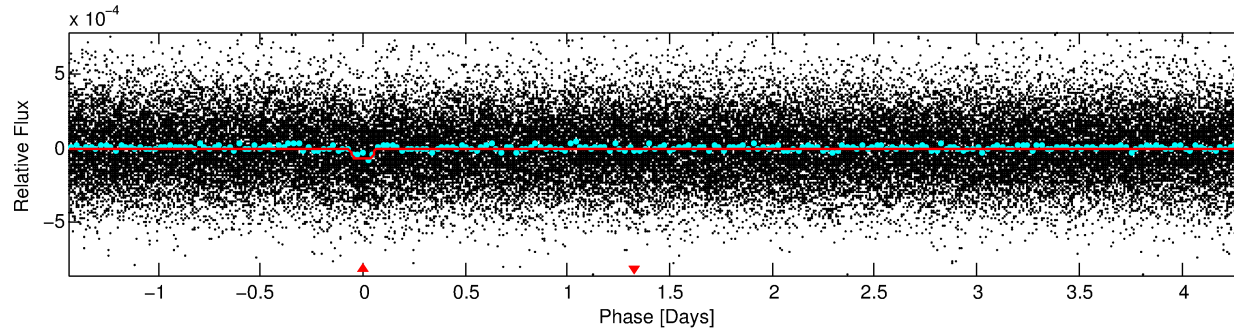
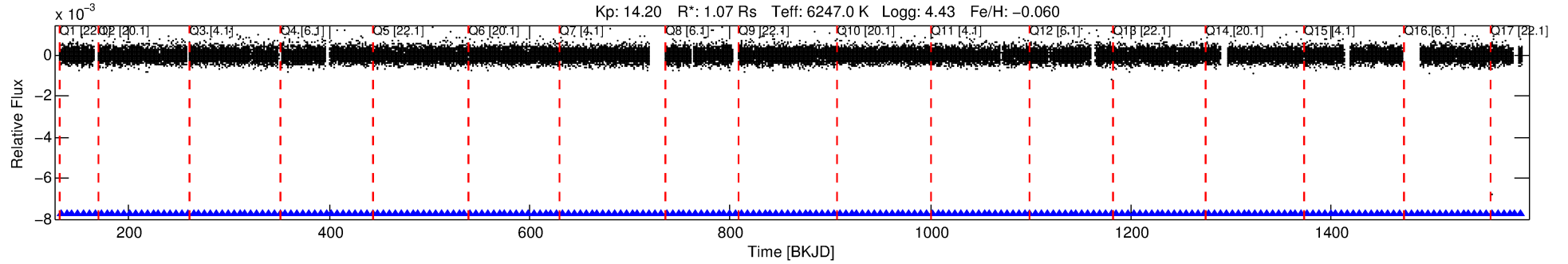
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 011618569-01

No Significant Match Found

# DV One-Page Summary

KIC: 11618569 Candidate: 1 of 1 Period: 5.759 d  
KOI: K04792.01 Corr: 0.948



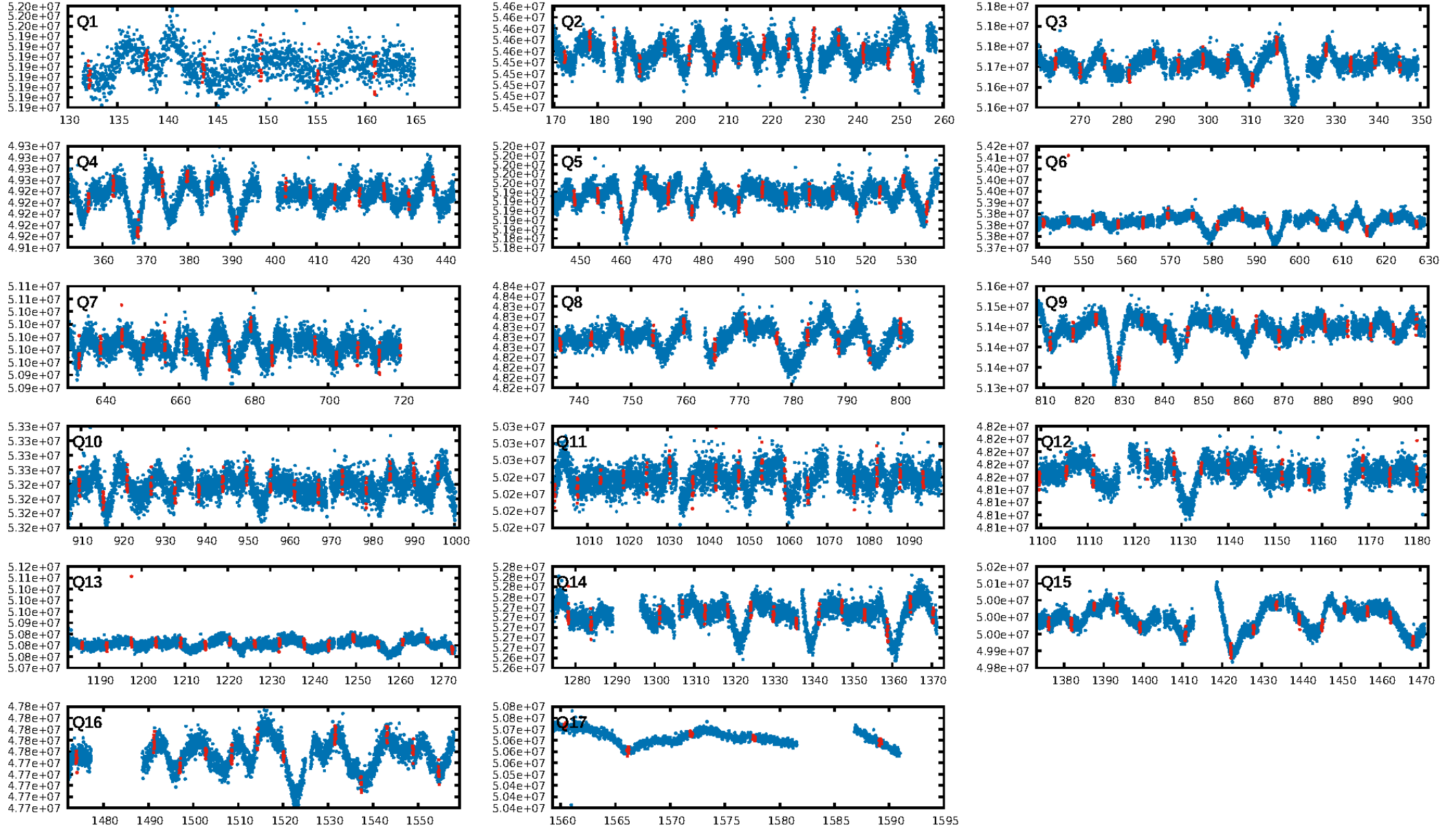
## DV Fit Results:

Period = 5.75898 [0.00004] d  
Epoch = 132.1663 [0.0052] BKJD  
Rp/R\* = 0.0091 [0.0049]  
a/R\* = 6.80 [19.57]  
b = 0.91 [0.59]  
Seff = 362.76 [150.95]  
Teq = 1113 [116] K  
Rp = 1.06 [0.66] Re  
a = 0.0654 [0.0175] AU  
Ag = 61.97 [72.92] [0.84 $\sigma$ ]  
Teff = 4827 [1349] K [2.74 $\sigma$ ]

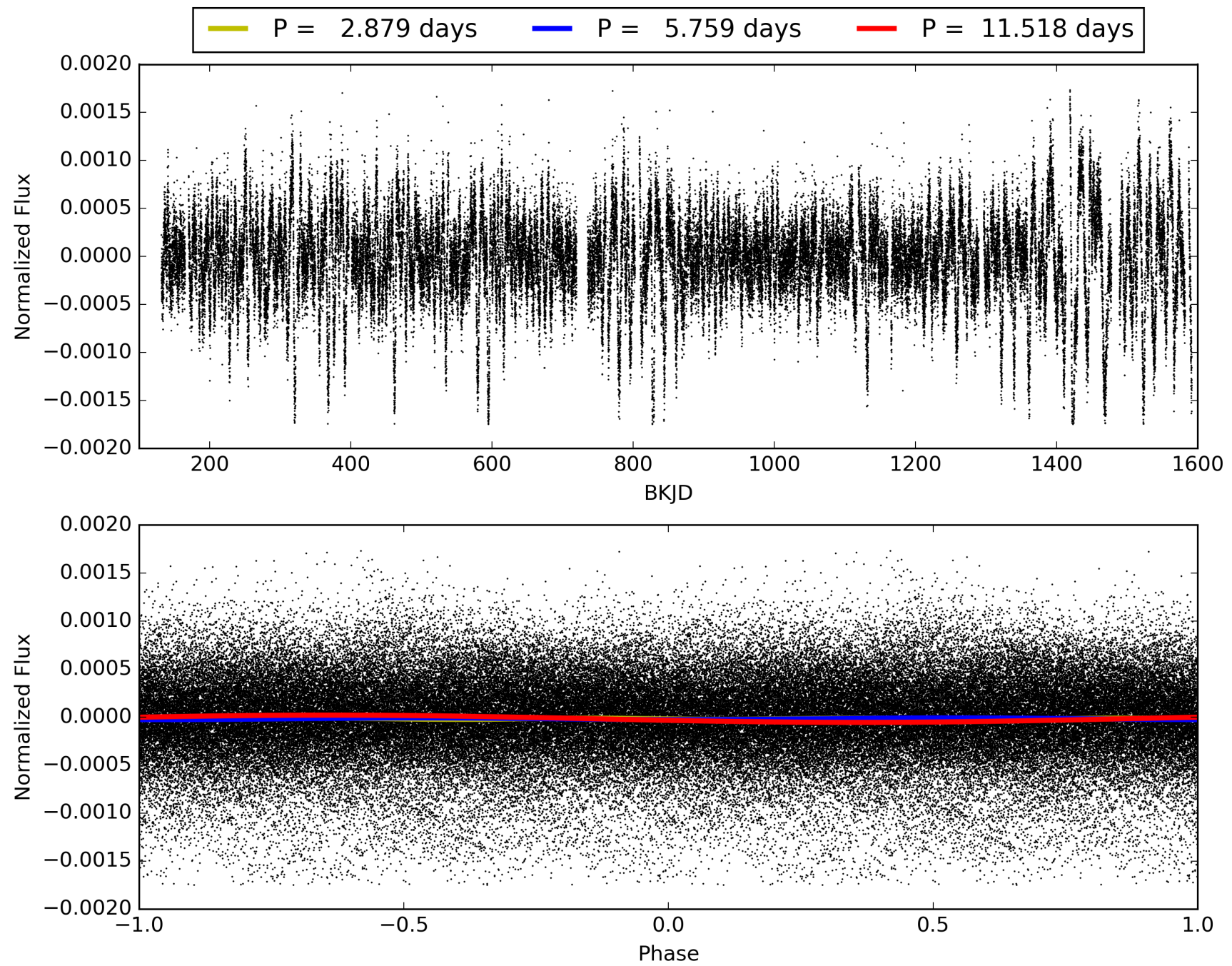
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.59e-17  
RollingBand-fgt: 1.00 [220/220]  
GhostDiagnostic-chr: 4.21  
Centroid-sig: 0.0%  
Centroid-so: 4.450 arcsec [3.33 $\sigma$ ]  
OotOffset-rm: 1.506 arcsec [1.99 $\sigma$ ]  
KicOffset-rm: 1.291 arcsec [1.45 $\sigma$ ]  
OotOffset-st: 2/3/2/4 [11]  
KicOffset-st: 2/3/2/4 [11]  
DiffImageQuality-fgm: 0.45 [5/11]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 011618569-01, PDC Light Curves

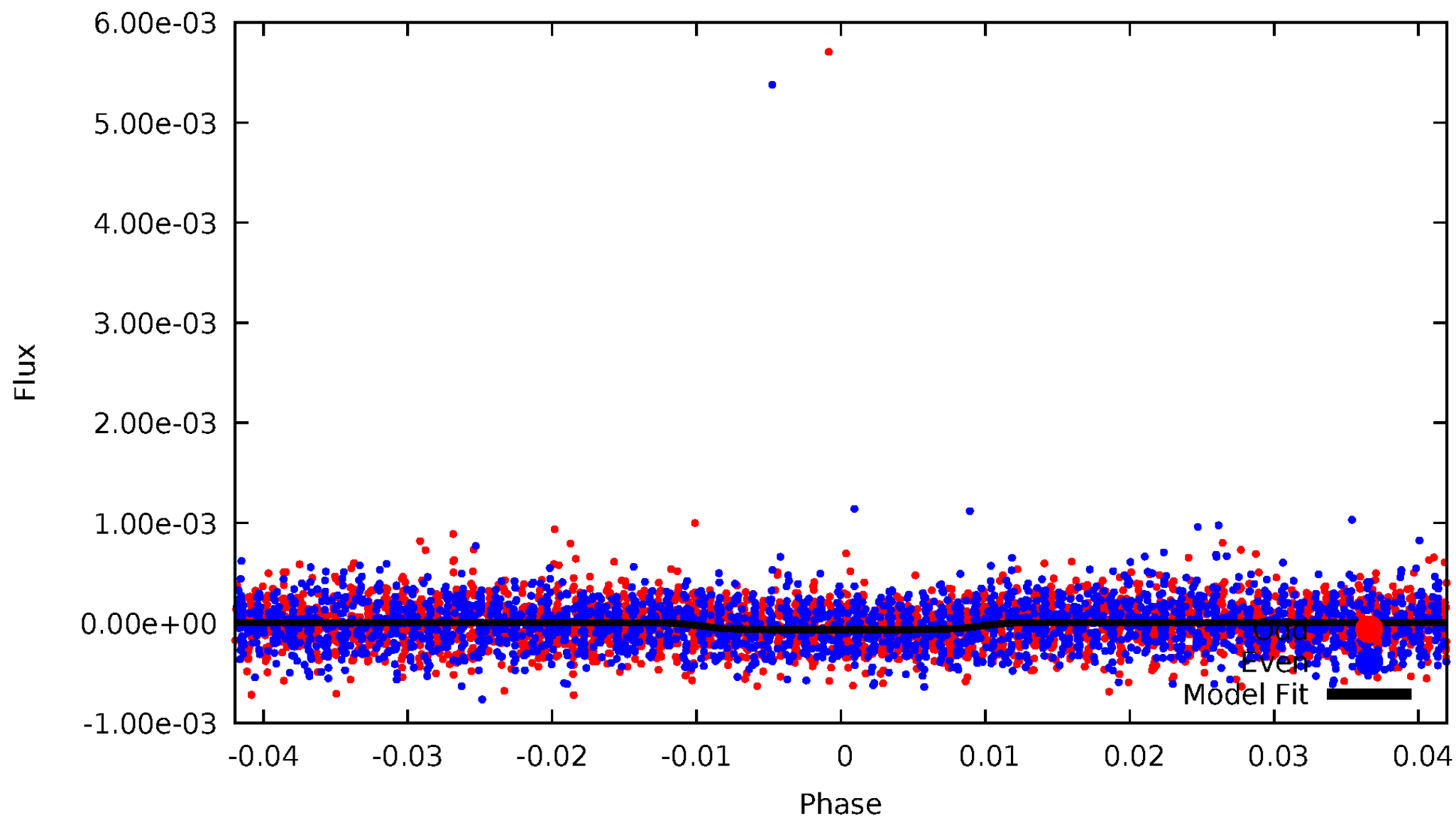


TCE 011618569-01



# DV Odd/Even

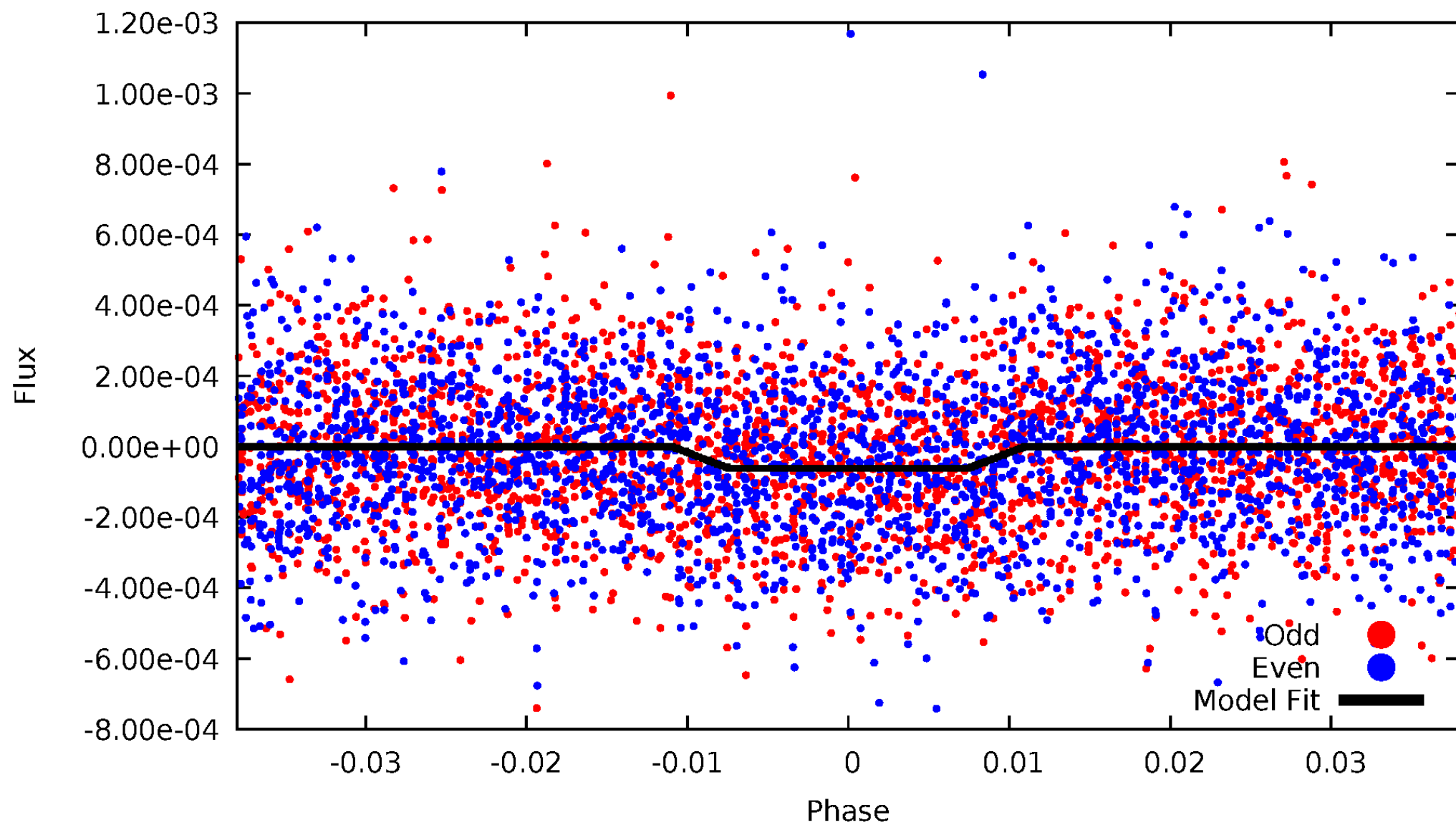
TCE 011618569-01



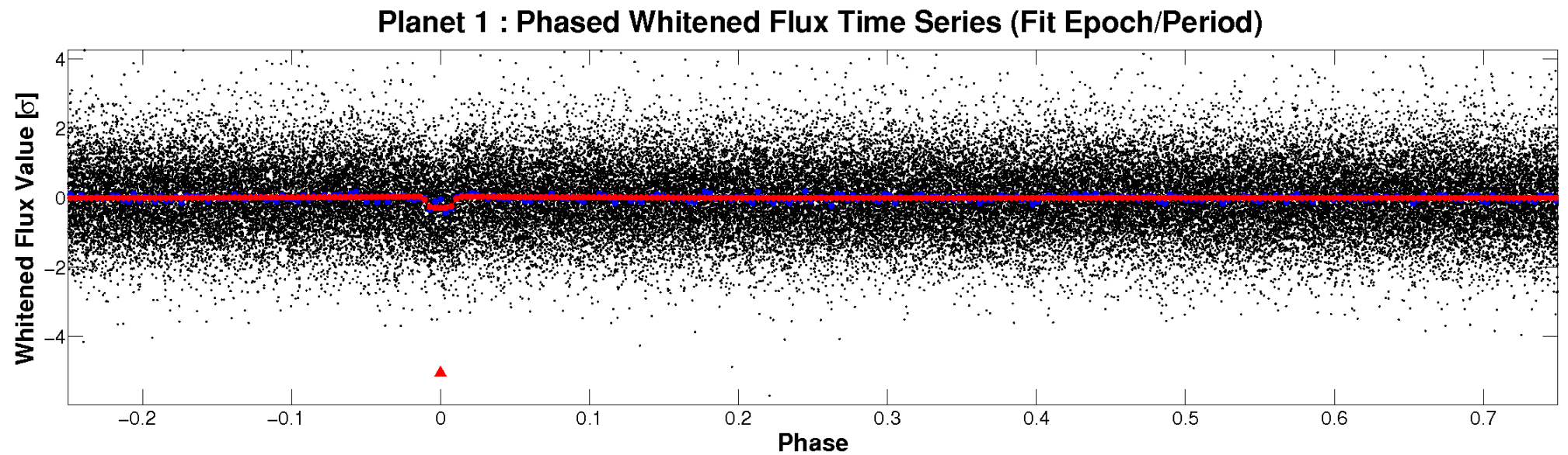
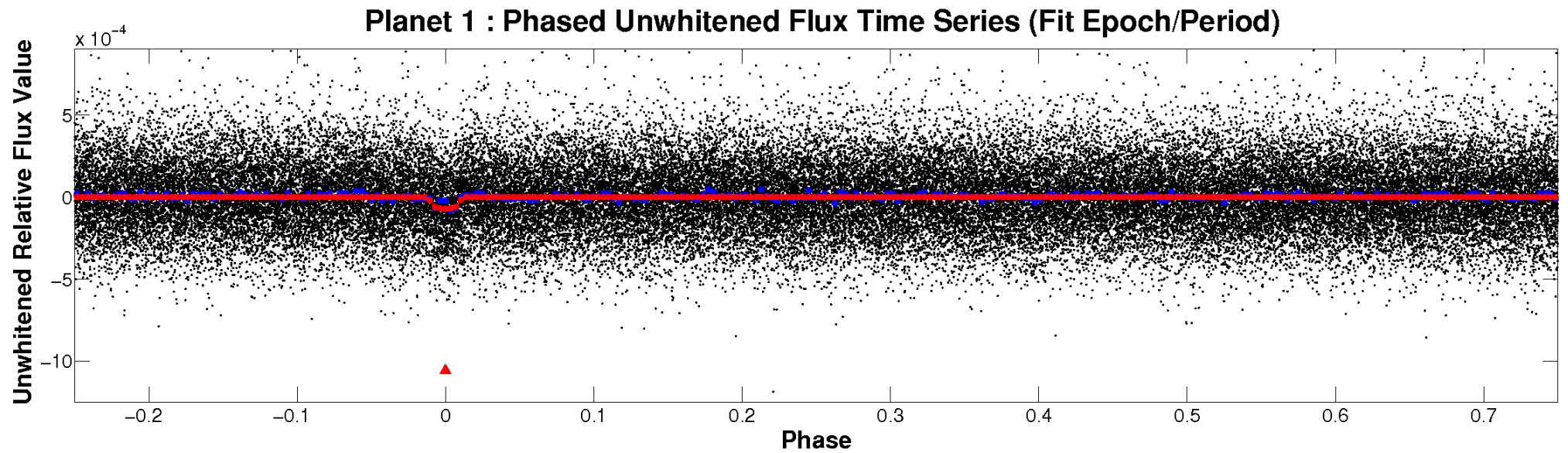


# ALT Odd/Even

TCE 011618569-01

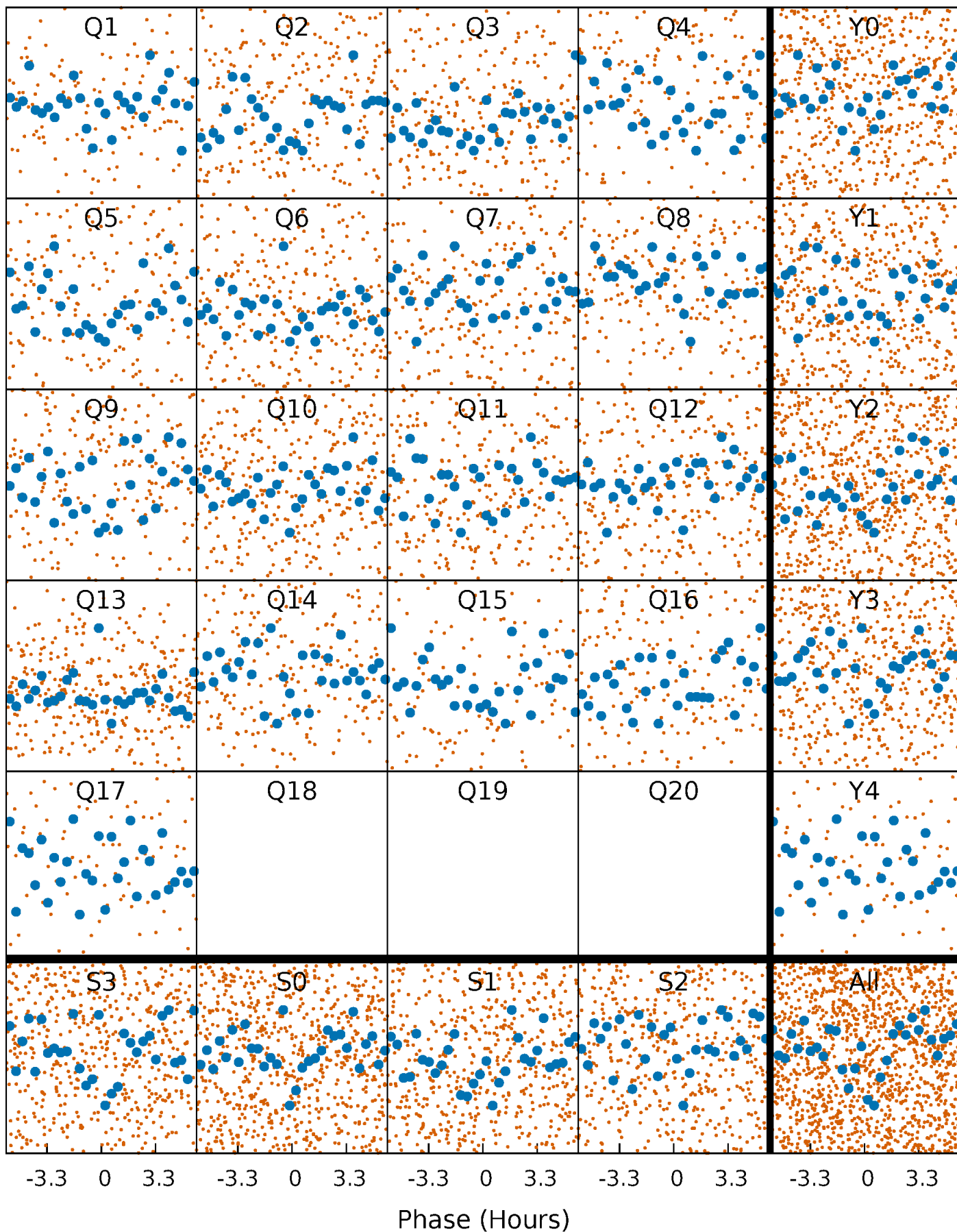


# Non-Whitened Vs. Whitened Light Curve



# PDC Quarter-Phased Transit Curves

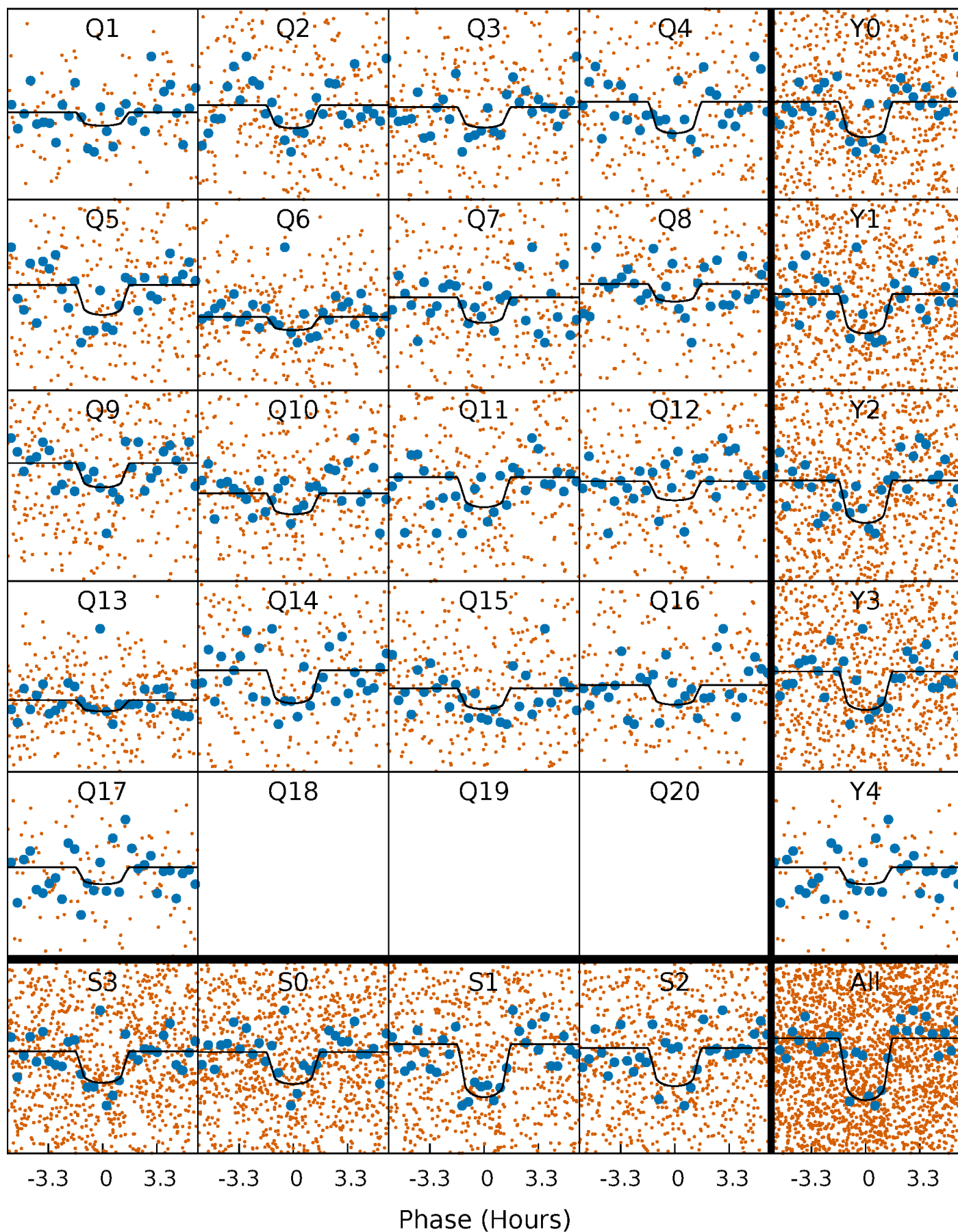
TCE 011618569-01 P= 5.758975 Days  $T_0=132.166346$  (BKJD)





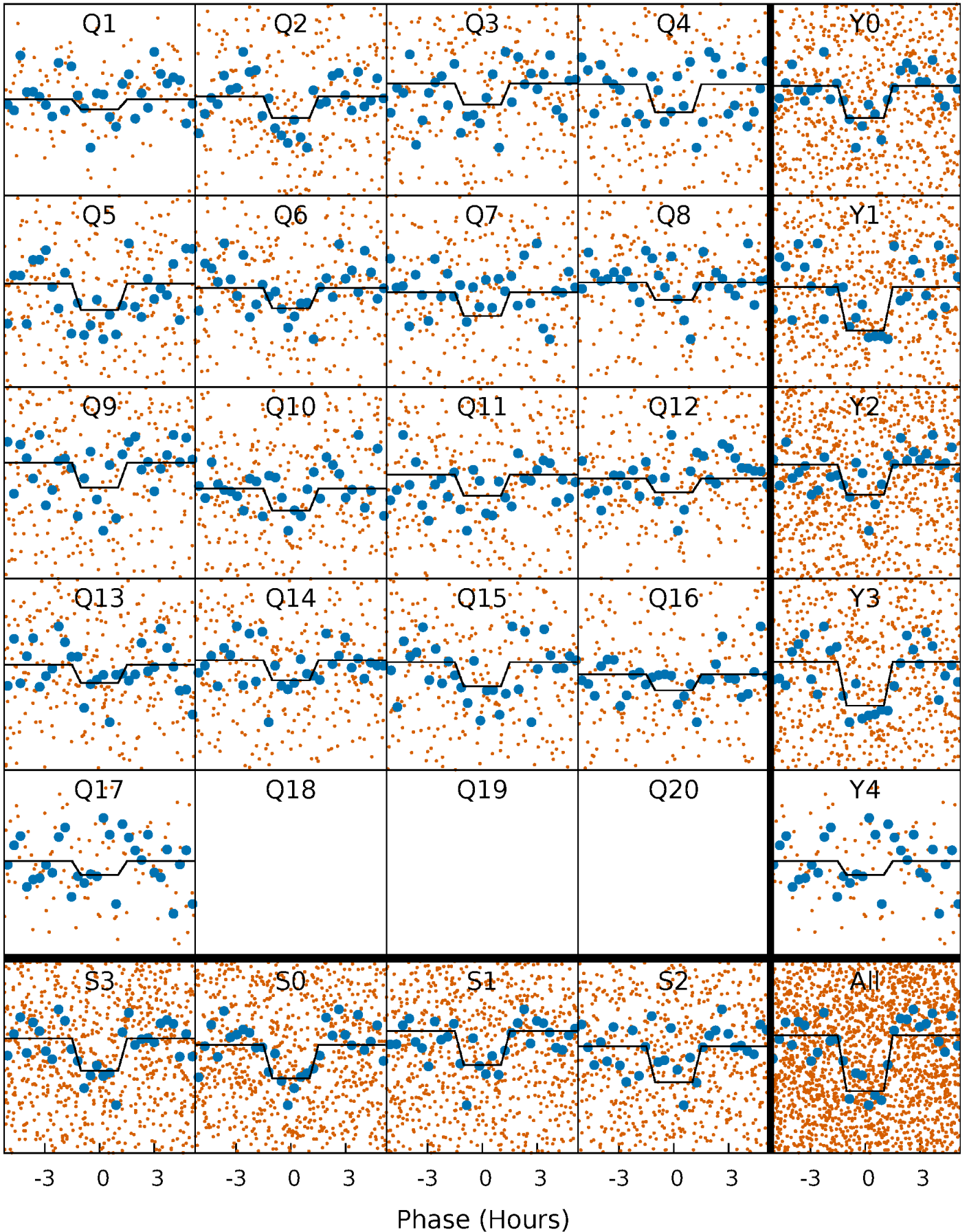
# DV Quarter-Phased Transit Curves

TCE 011618569-01 P= 5.758975 Days  $T_0=132.166346$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

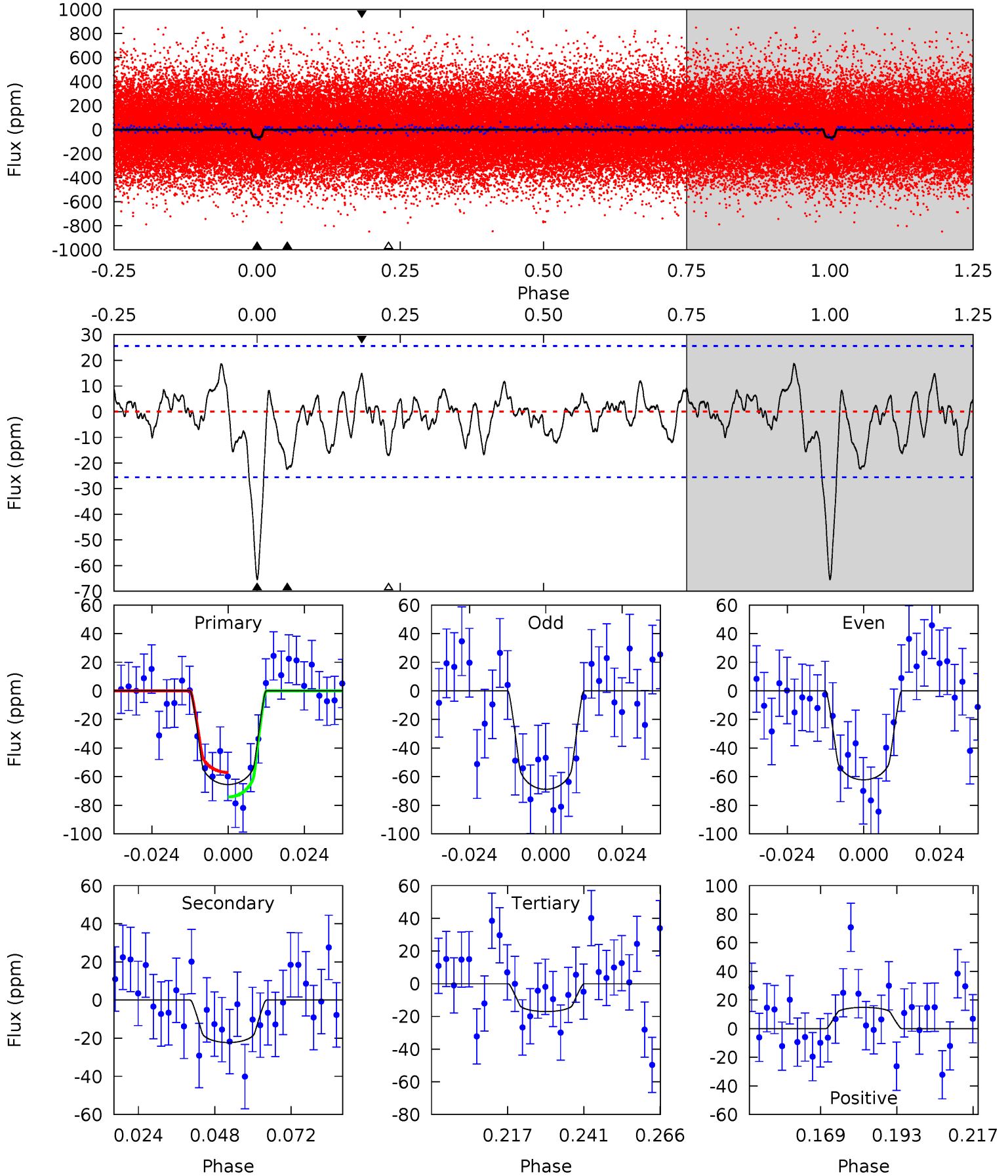
TCE 011618569-01 P= 5.759026 Days  $T_0=132.161606$  (BKJD)



# DV Model-Shift Uniqueness Test

011618569-01, P = 5.758975 Days, E = 126.407371 Days

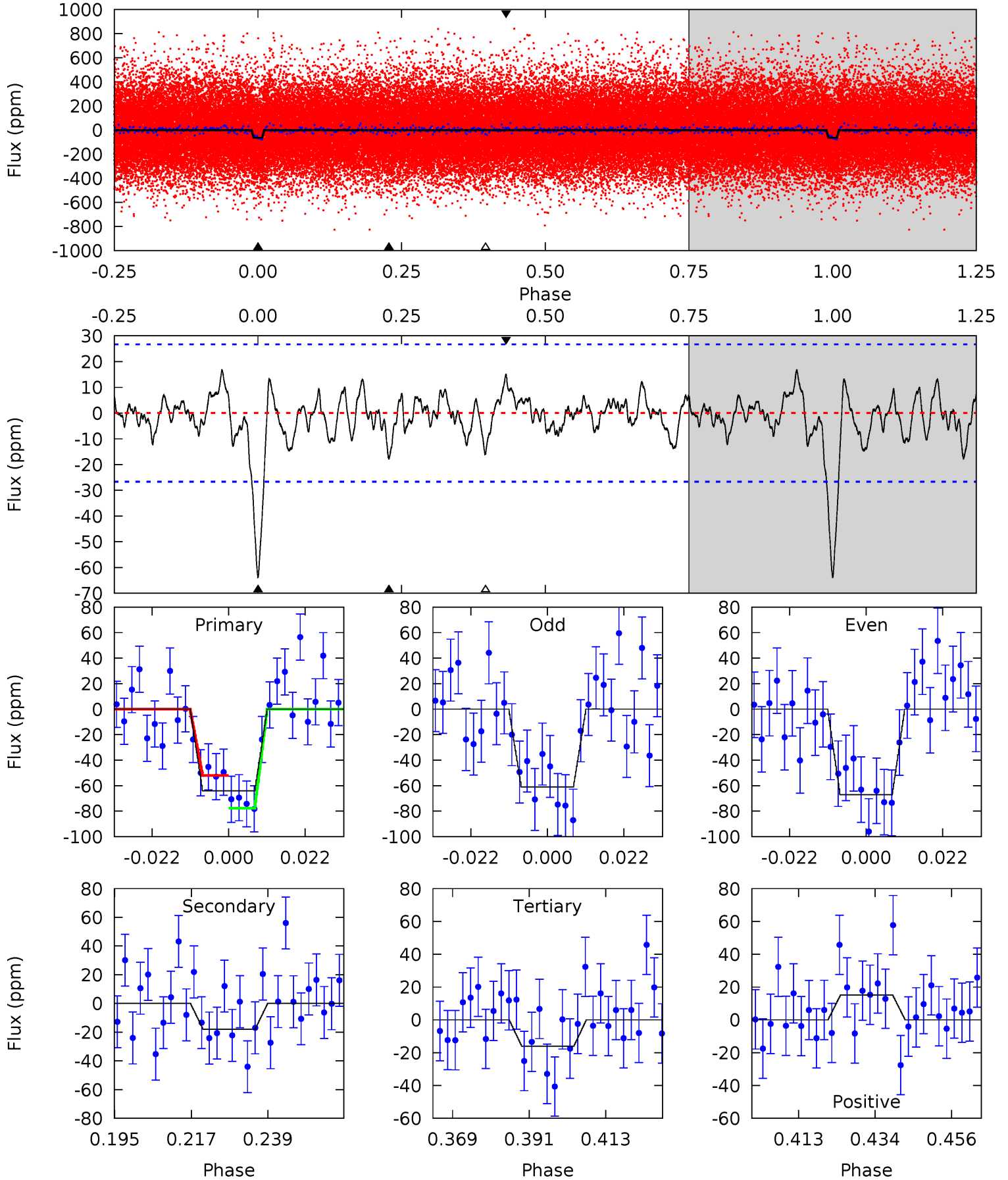
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
12.4	4.23	3.23	2.82	4.85	2.25	1.21	9.20	9.61	0.99	1.41	0.63	0.77	0.22	1.63



# Alt Model-Shift Uniqueness Test

011618569-01, P = 5.759026 Days, E = 126.402580 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
11.7	3.28	2.93	2.77	4.88	2.30	1.08	8.78	8.93	0.35	0.51	0.55	0.91	0.21	2.34



### Stellar Parameters For KIC 011618569

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6247^{+152}_{-217}$	$4.433^{+0.054}_{-0.216}$	$-0.060^{+0.250}_{-0.300}$	$1.066^{+0.335}_{-0.134}$	$1.122^{+0.159}_{-0.145}$	$1.304^{+0.372}_{-0.686}$
	+2%/-3%	+1%/-5%	+417%/-500%	+31%/-13%	+14%/-13%	+29%/-53%
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 011618569-01 / KOI 4792.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-22 \pm 5$	$1.17^{+0.67}_{-0.60}$	$1588^{+128}_{-78}$	$4537^{+1711}_{-702}$	$36^{+127}_{-21}$
Alt.	$-18 \pm 5$	$1.04^{+0.57}_{-0.57}$	$1591^{+112}_{-79}$	$4560^{+1800}_{-740}$	$38^{+138}_{-23}$

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



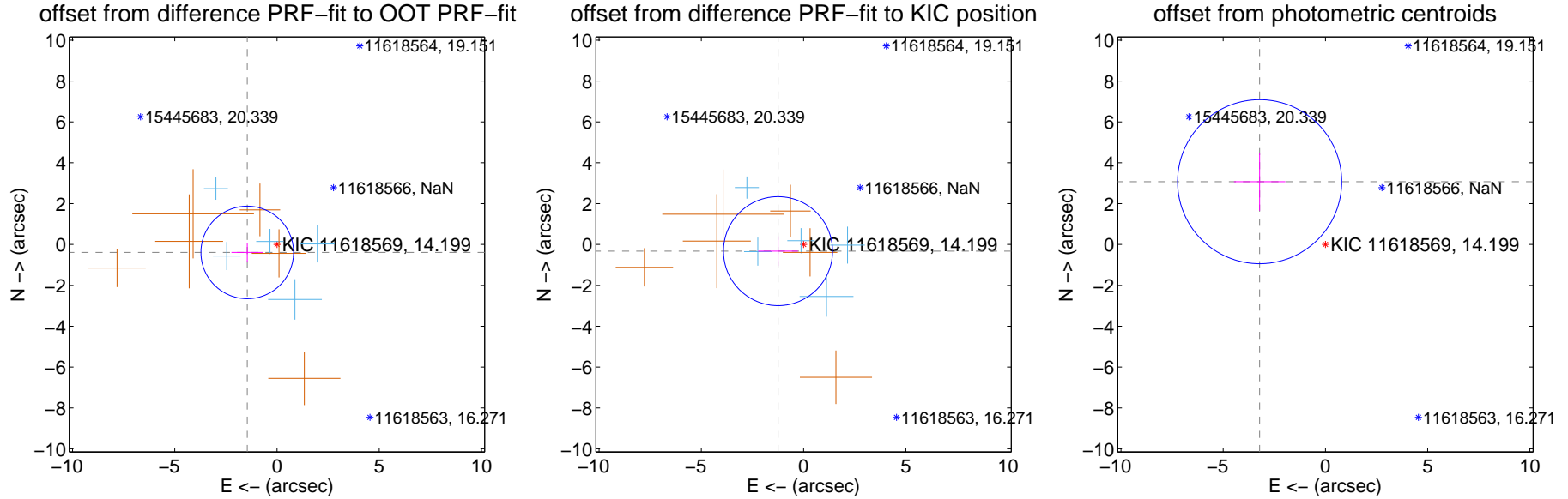
## DV Centroid Data

Supplemental centroid analysis for 011618569-01. Kepler magnitude: 14.20. Transit SNR 9.37

There are 5 quarters with good PRF difference image offsets

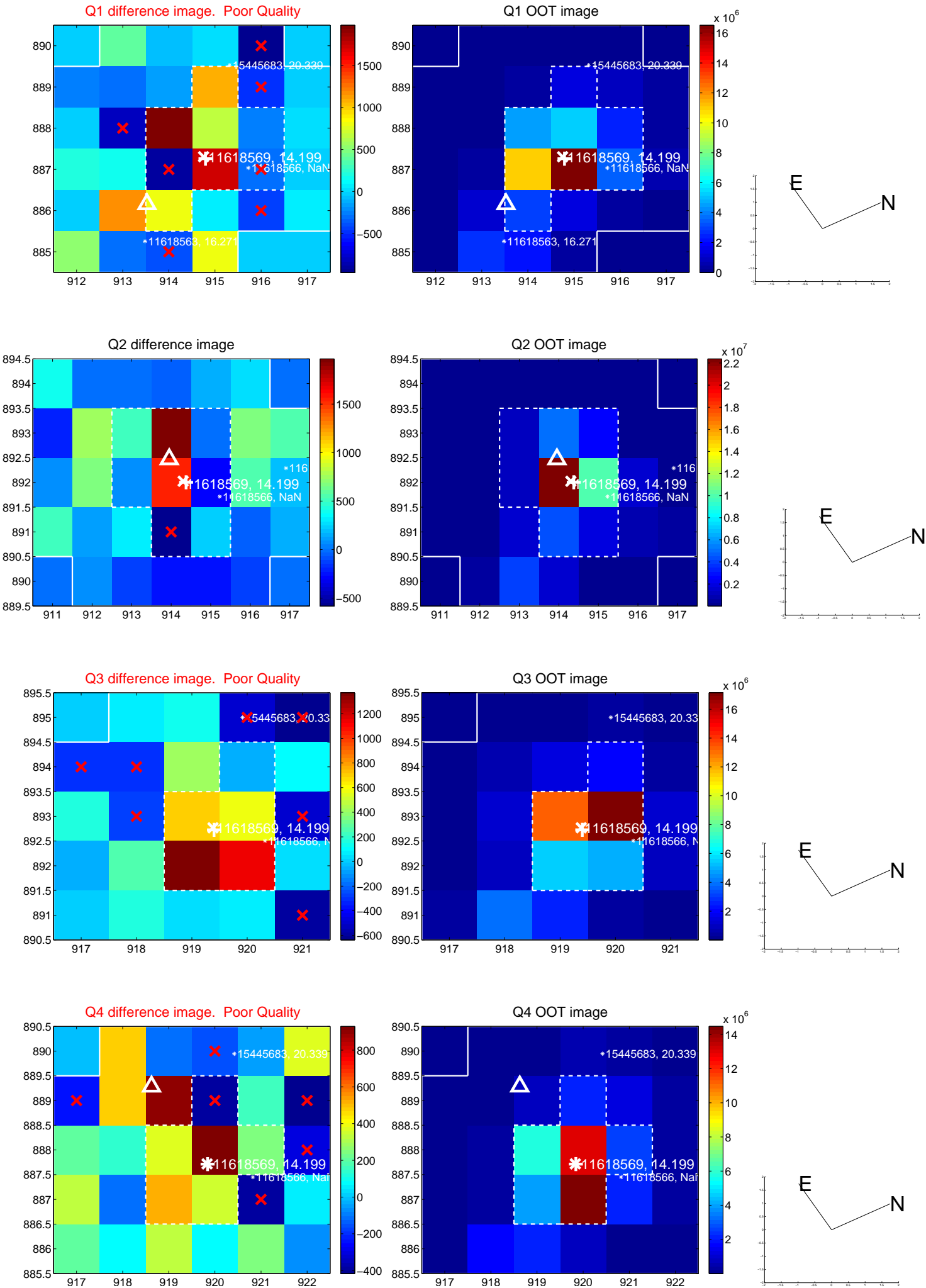
The direct PRF centroid is offset from the target star catalog position by about 0.19 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$1.506 \pm 0.755$	1.99	$1.455 \pm 0.773$	$-0.389 \pm 0.446$
PRF-fit source offset from KIC position	$1.291 \pm 0.889$	1.45	$1.249 \pm 0.971$	$-0.326 \pm 0.727$
photometric centroid source offset	$4.45 \pm 1.34$	<b>3.33</b>	$3.22 \pm 1.25$	$3.07 \pm 1.42$

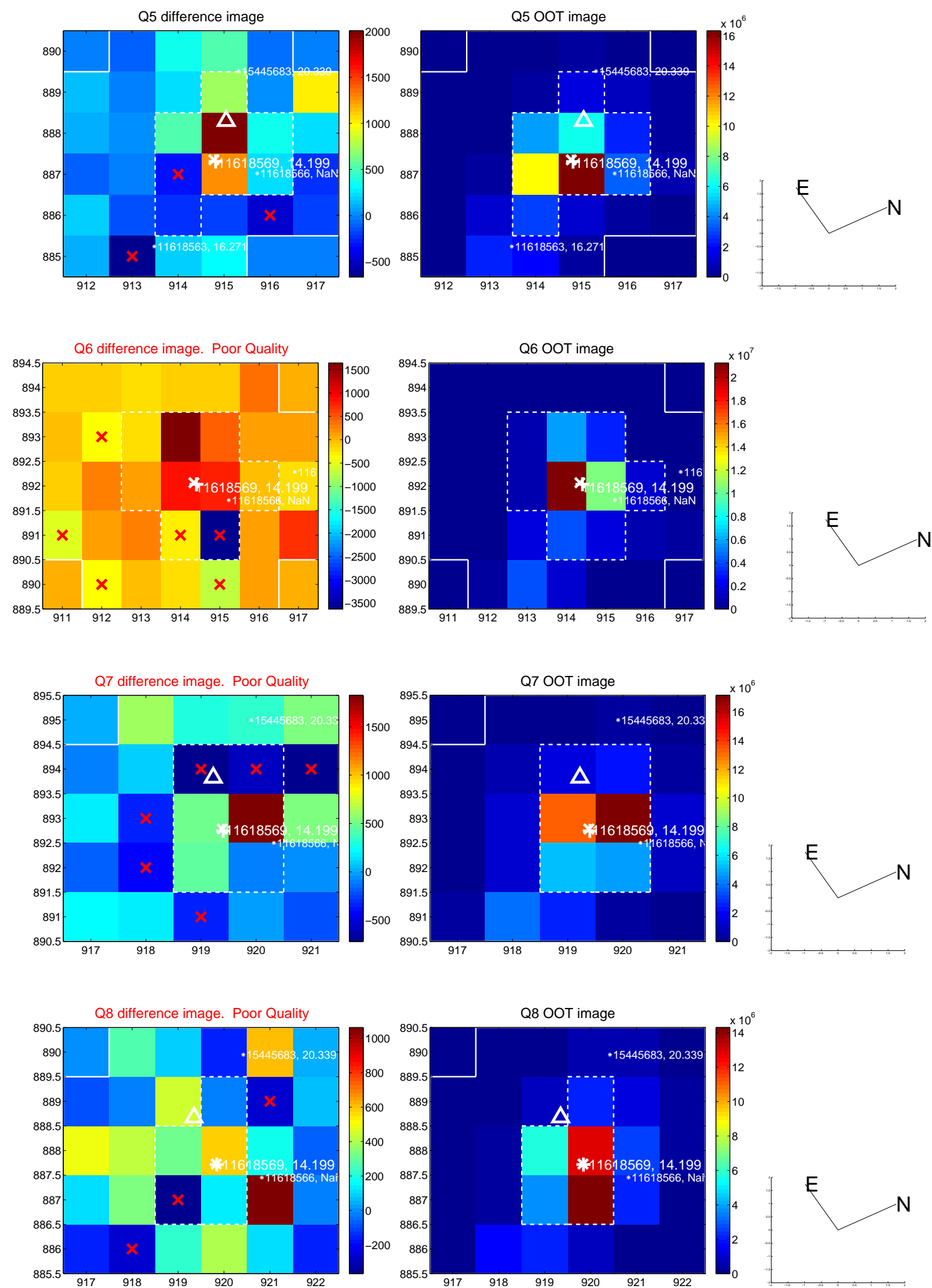


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

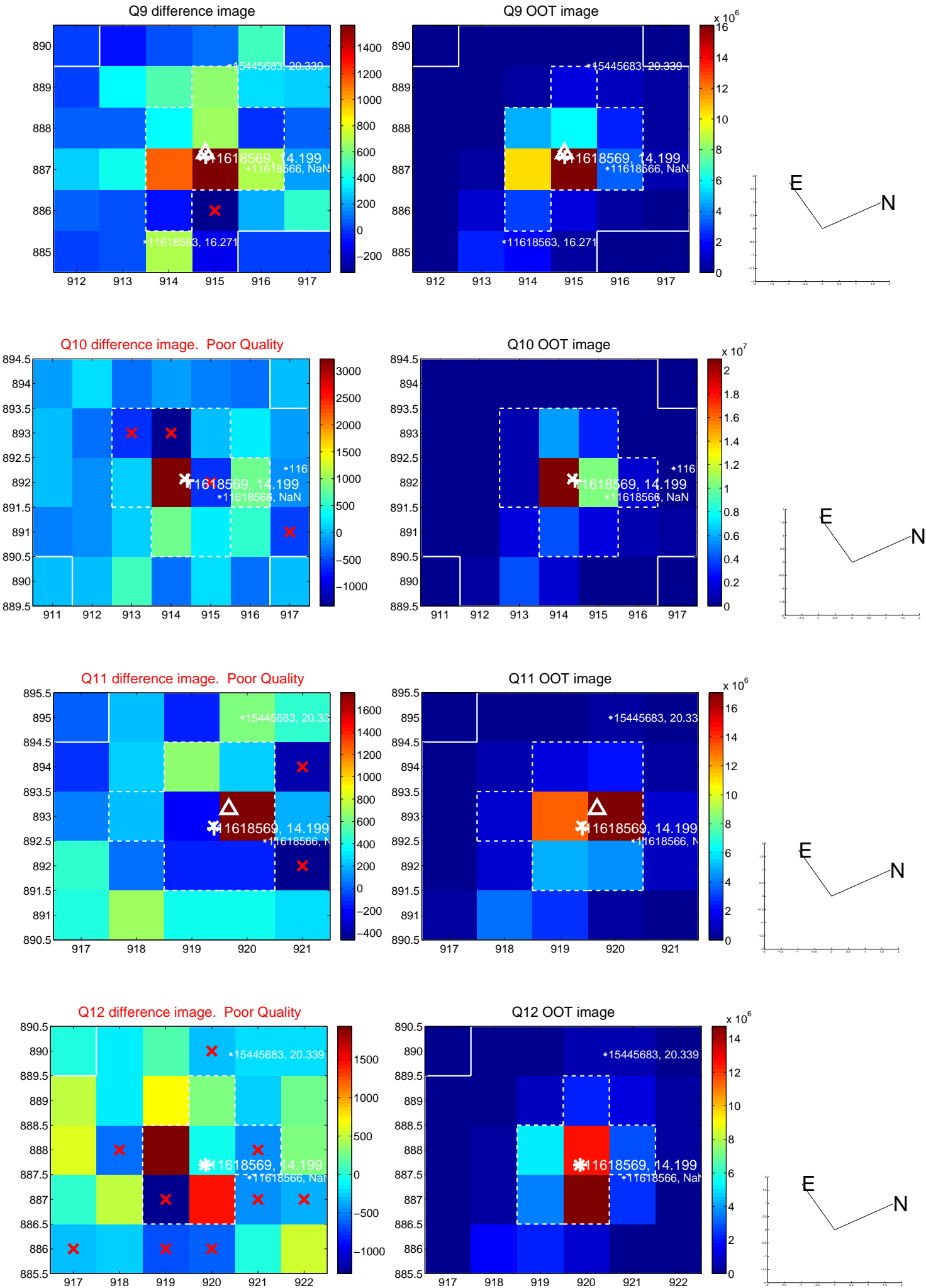
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



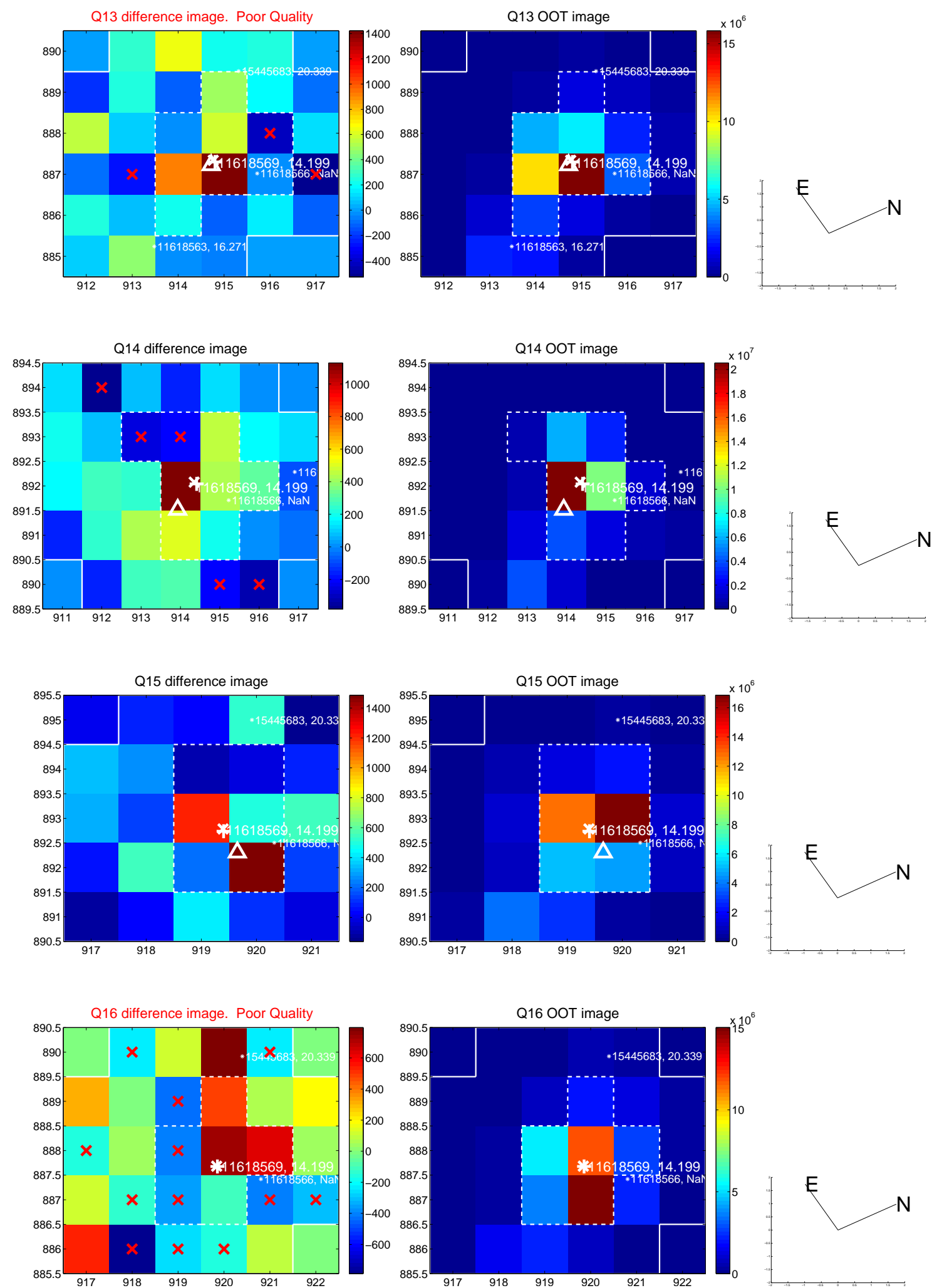
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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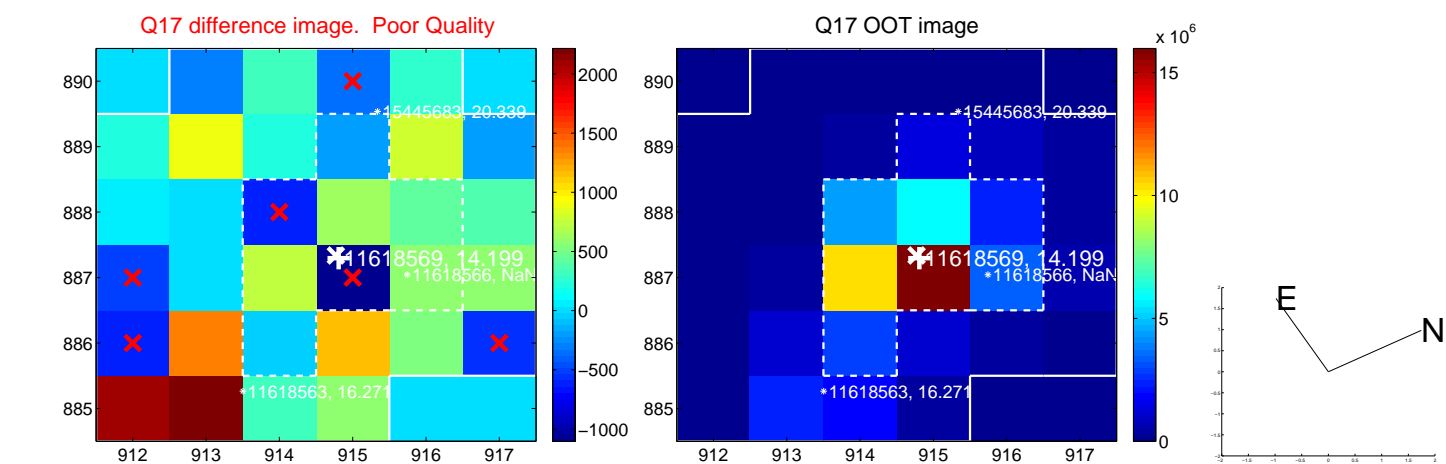


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

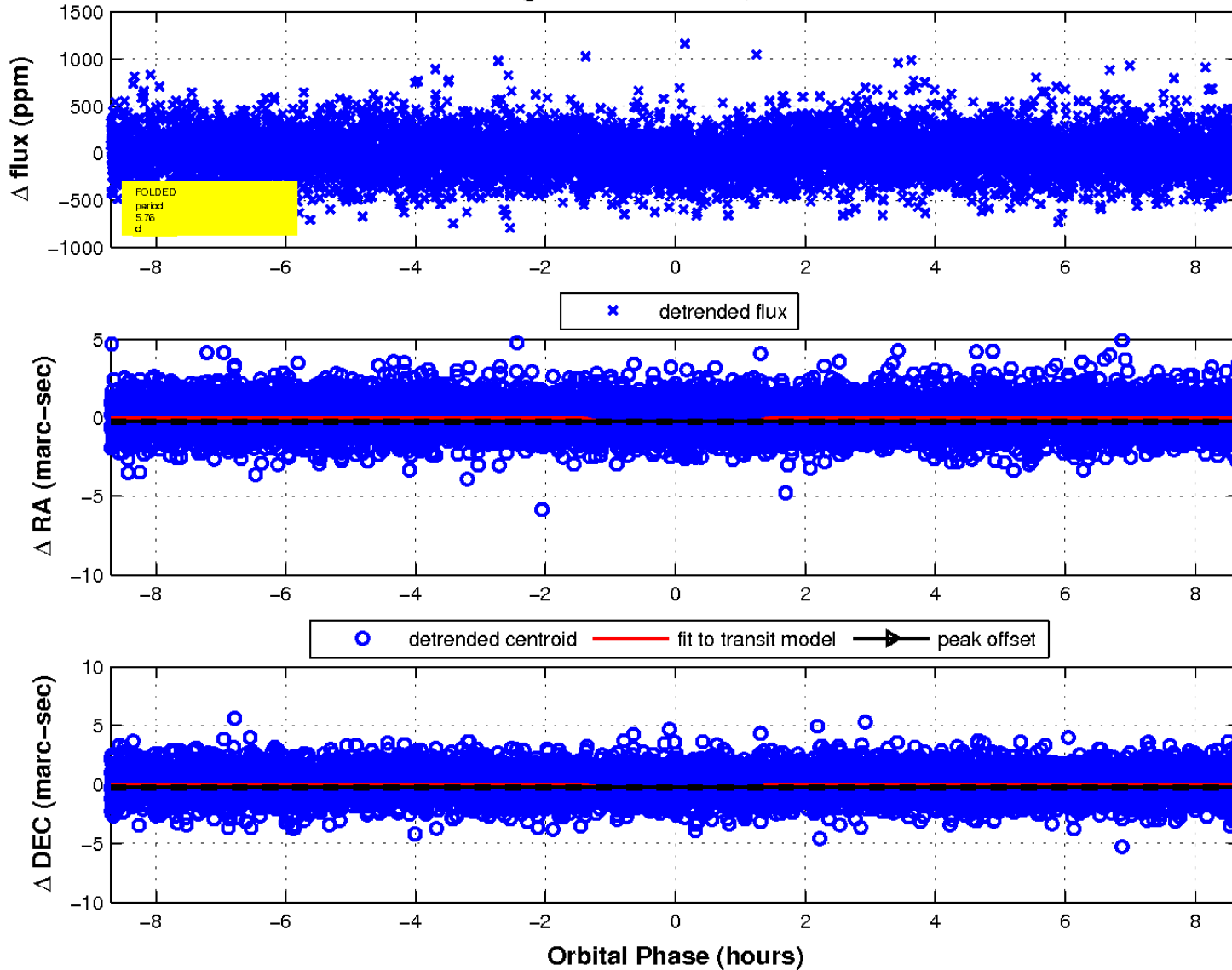




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

