

# KIC 005980208

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005980208-01	OBS	2742.01	0.789165	131.503932	215.8	0.936	19.0	25.0	0.62	4258	1.13	567.57

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005980208-01	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.

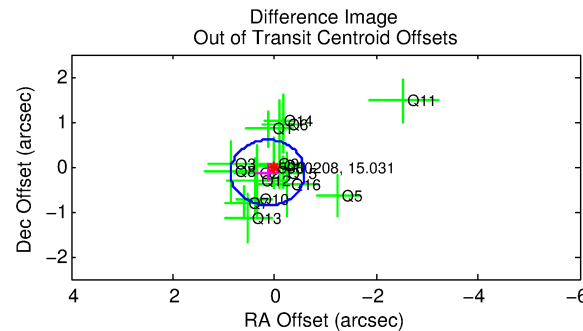
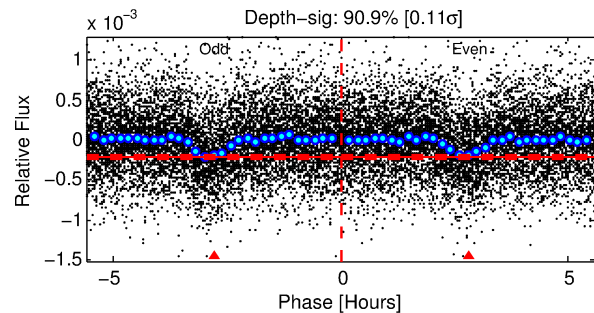
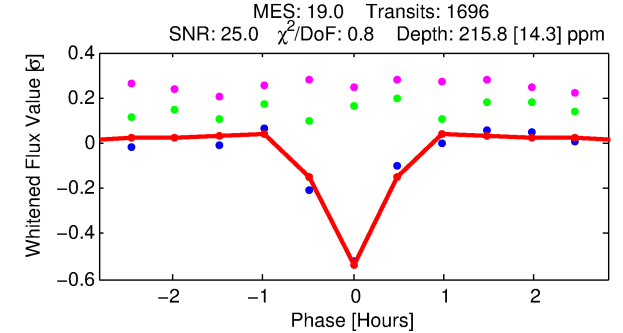
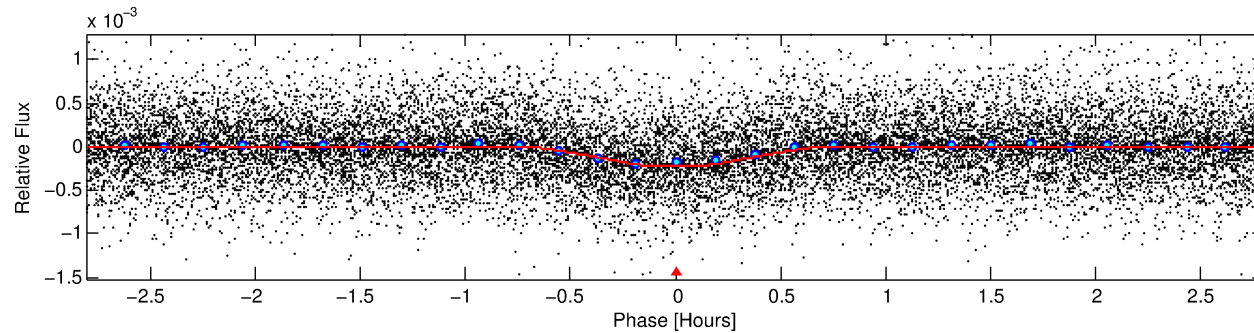
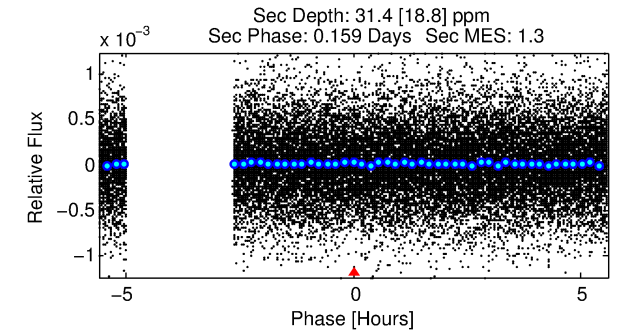
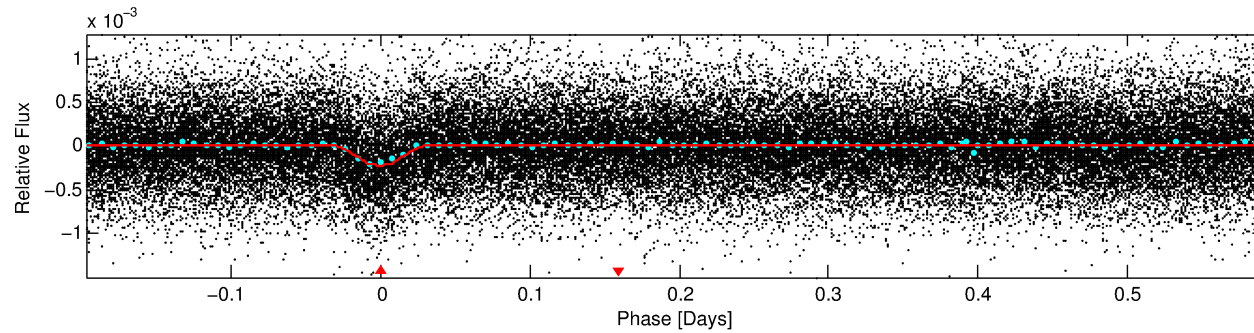
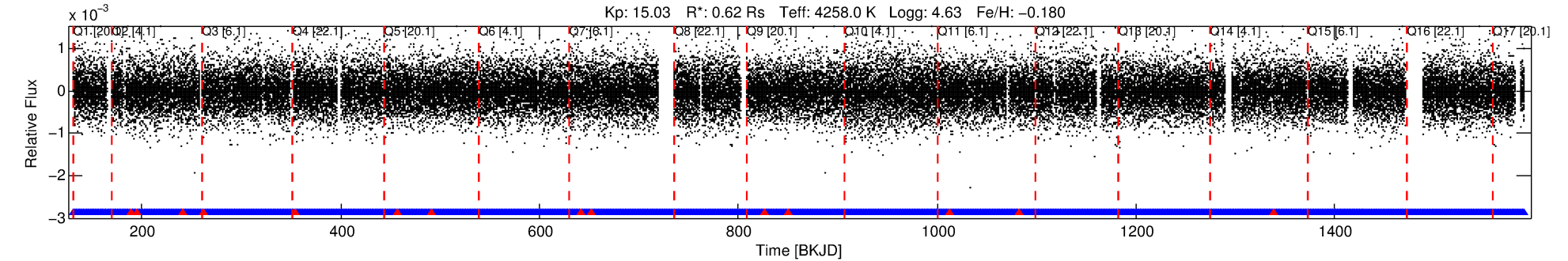
## Ephemeris Match Information For 005980208-01

No Significant Match Found

# DV One-Page Summary

KIC: 5980208 Candidate: 1 of 1 Period: 0.789 d

KOI: K02742.01 Corr: 0.940



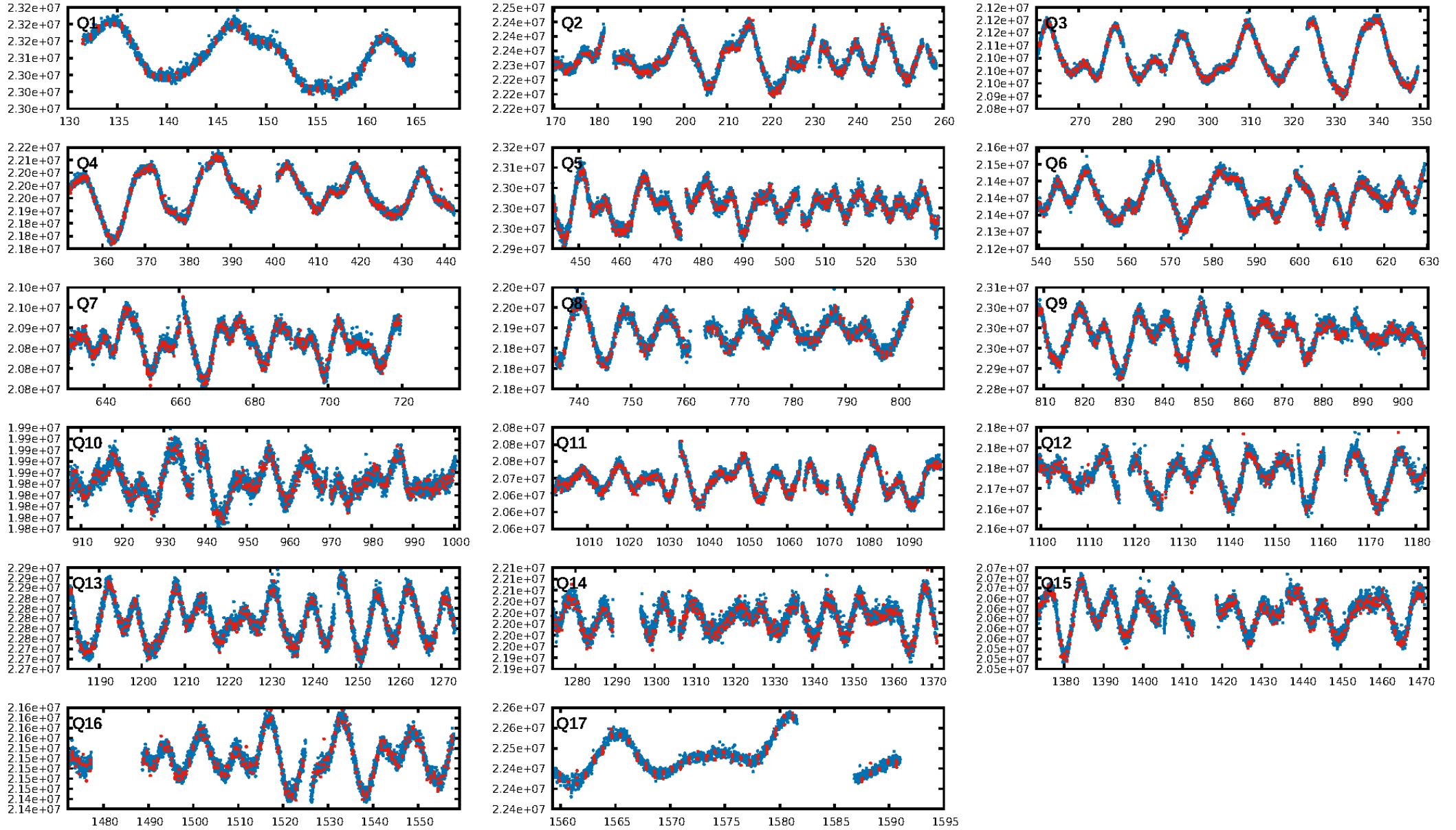
## DV Fit Results:

Period = 0.78917 [0.00000] d  
Epoch = 131.5039 [0.0006] BKJD  
Rp/R\* = 0.0167 [0.0078]  
a/R\* = 3.21 [5.24]  
b = 0.90 [0.40]  
Seff = 567.57 [95.61]  
Teff = 1245 [52] K  
Rp = 1.13 [0.54] Re  
a = 0.0142 [0.0011] AU  
Ag = 2.71 [3.02] [0.57σ]  
Teffp = 2469 [689] K [1.77σ]

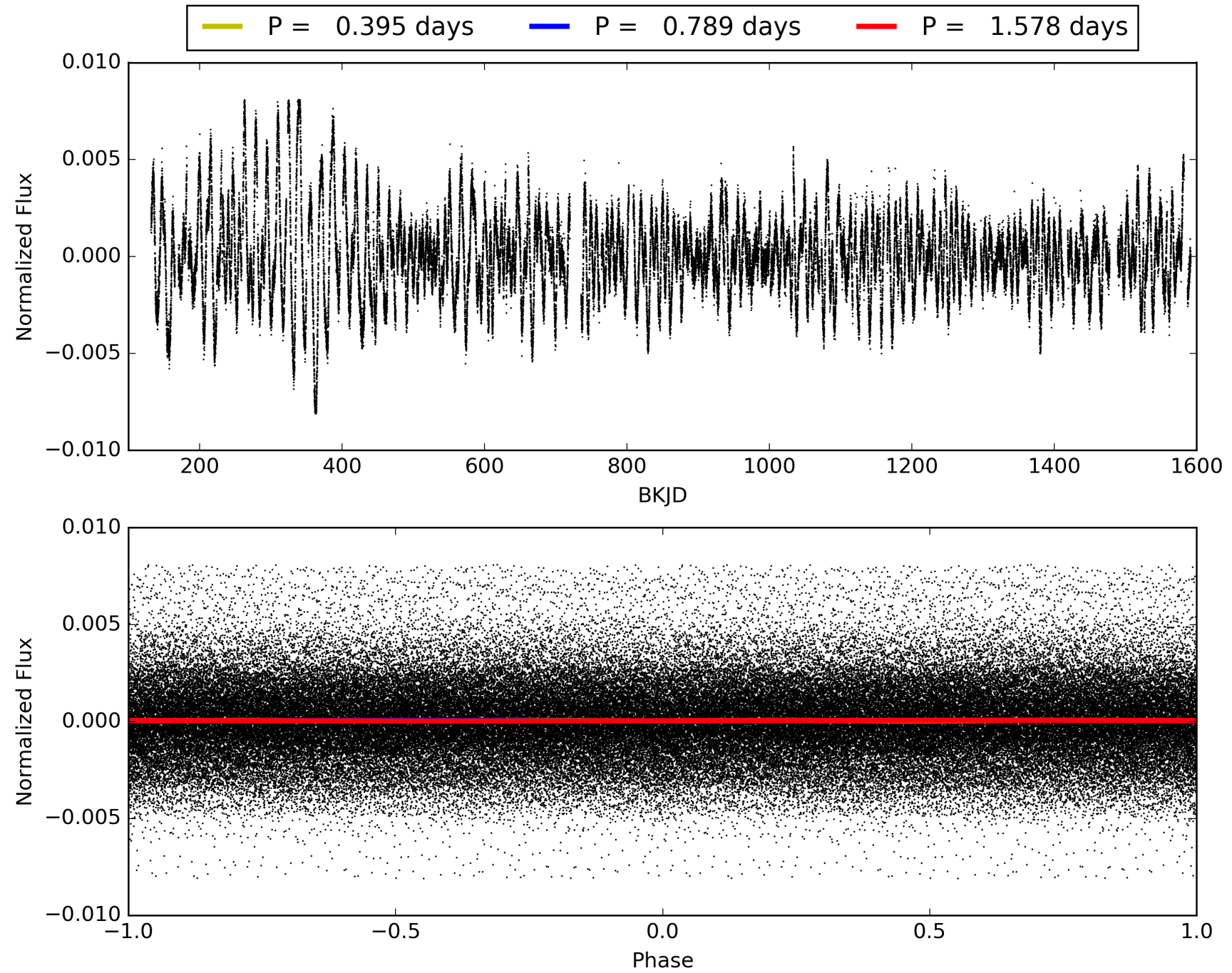
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.14e-74  
RollingBand-fgt: 0.99 [1605/1620]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.192 arcsec [0.79σ]  
KicOffset-rm: 0.353 arcsec [1.49σ]  
OotOffset-st: 4/4/4/4 [16]  
KicOffset-st: 4/4/4/4 [16]  
DiffImageQuality-fgm: 1.00 [16/16]  
DiffImageOverlap-fno: 1.00 [17/17]

# TCE 005980208-01, PDC Light Curves

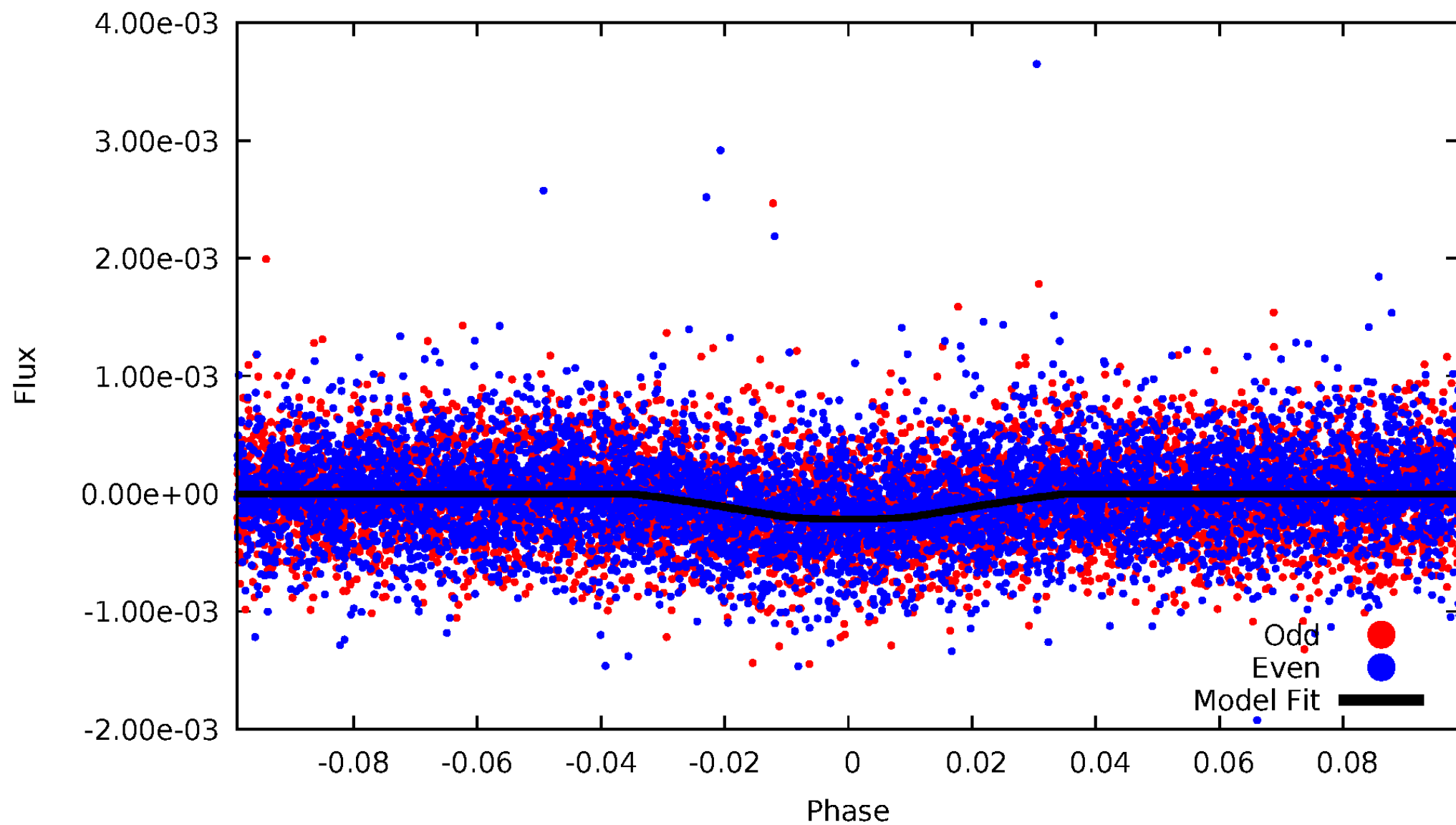


TCE 005980208-01



# DV Odd/Even

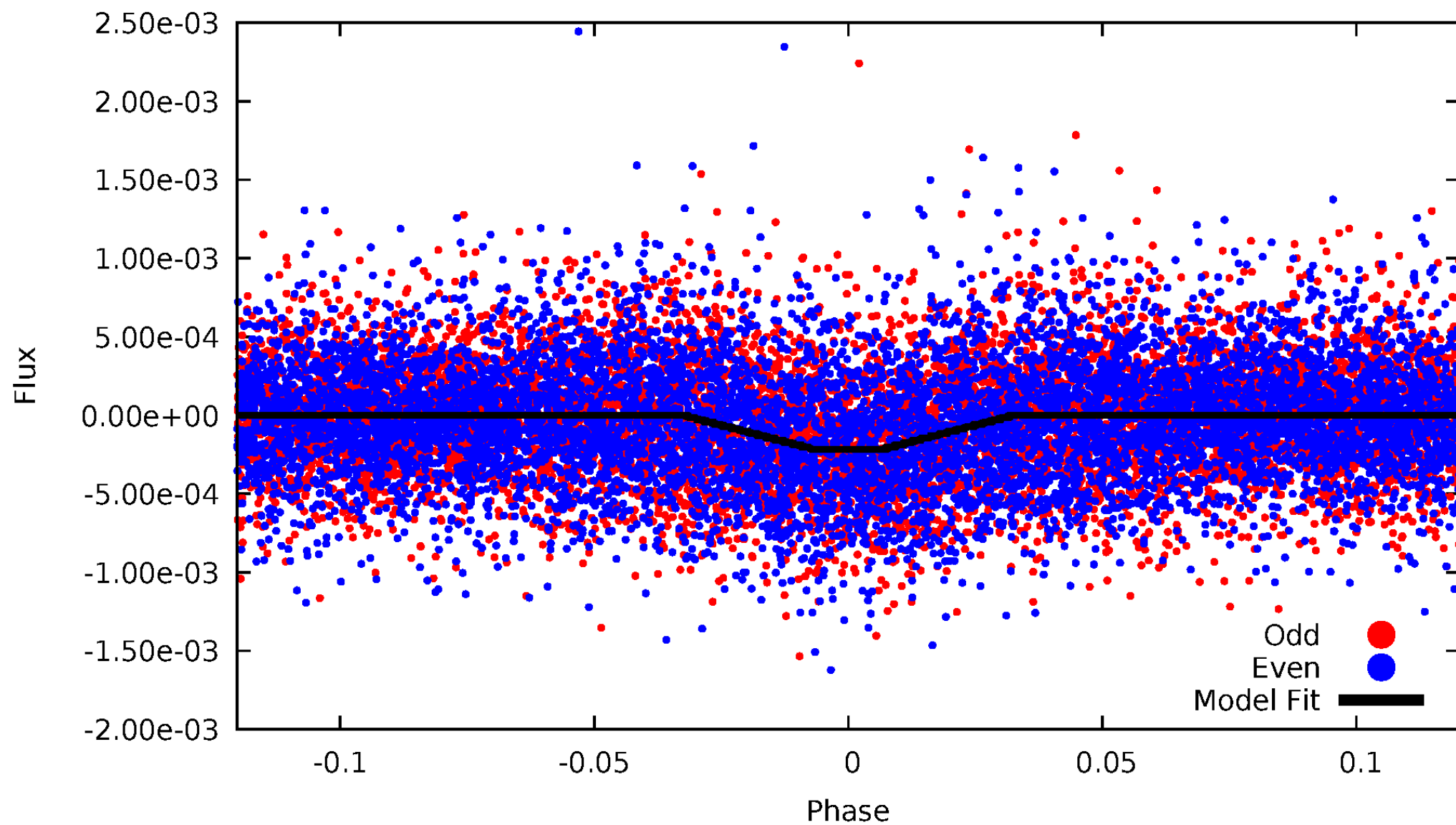
TCE 005980208-01





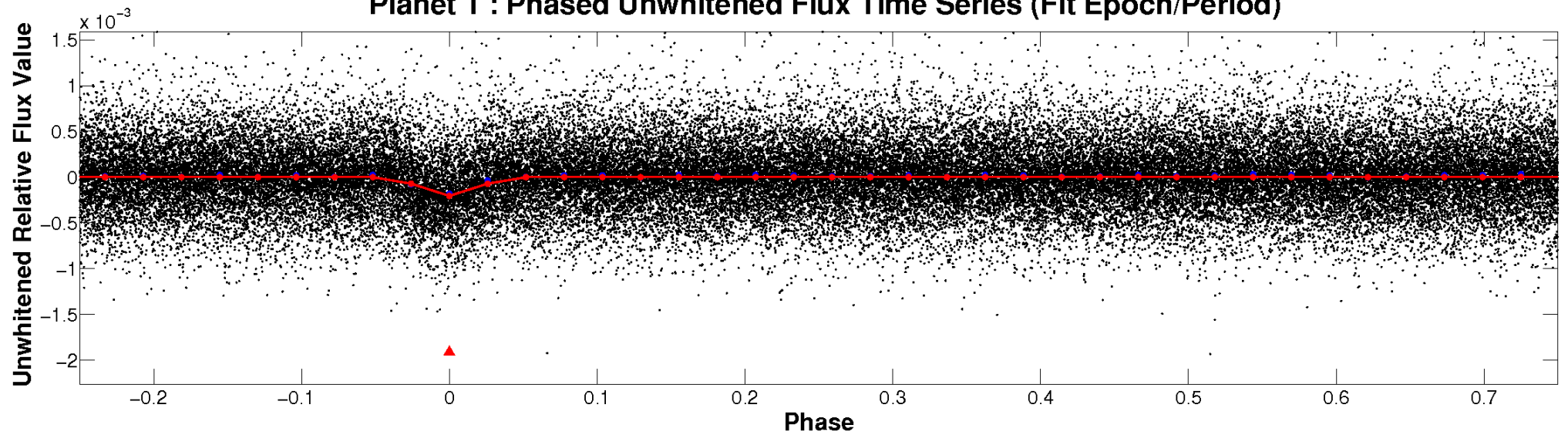
# ALT Odd/Even

TCE 005980208-01

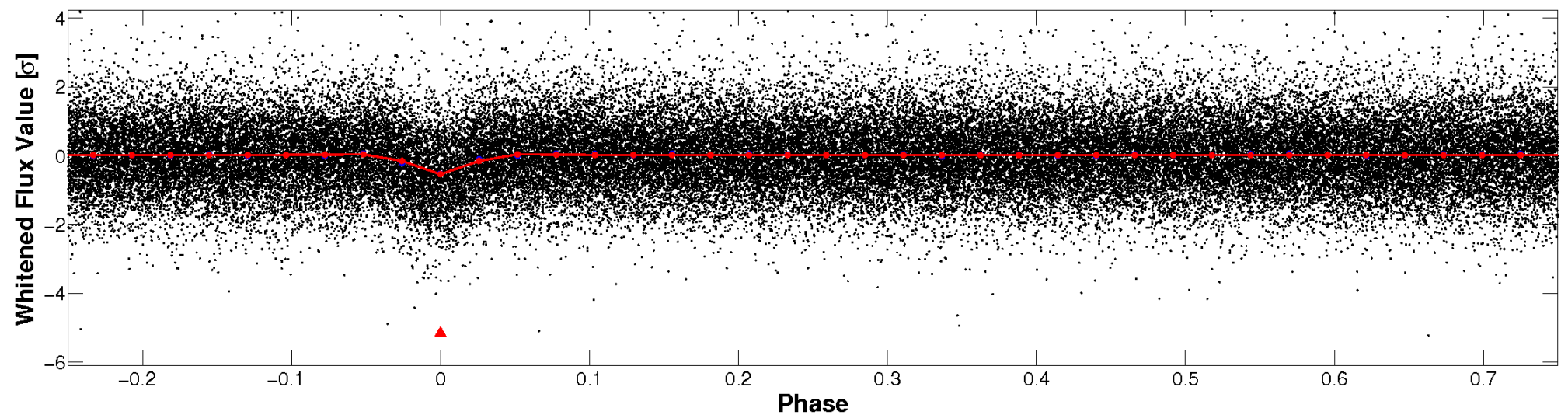


# Non-Whitened Vs. Whitened Light Curve

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

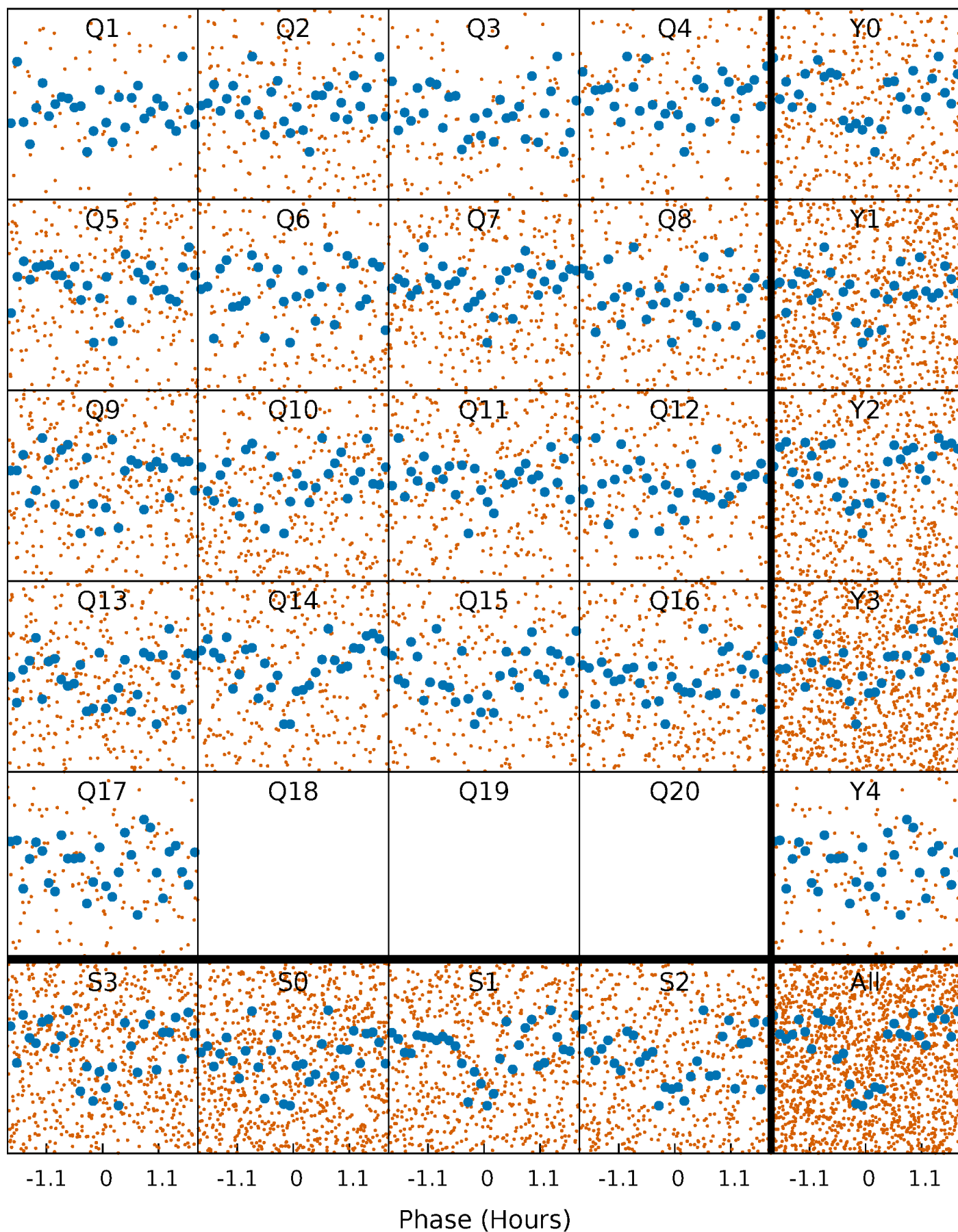


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

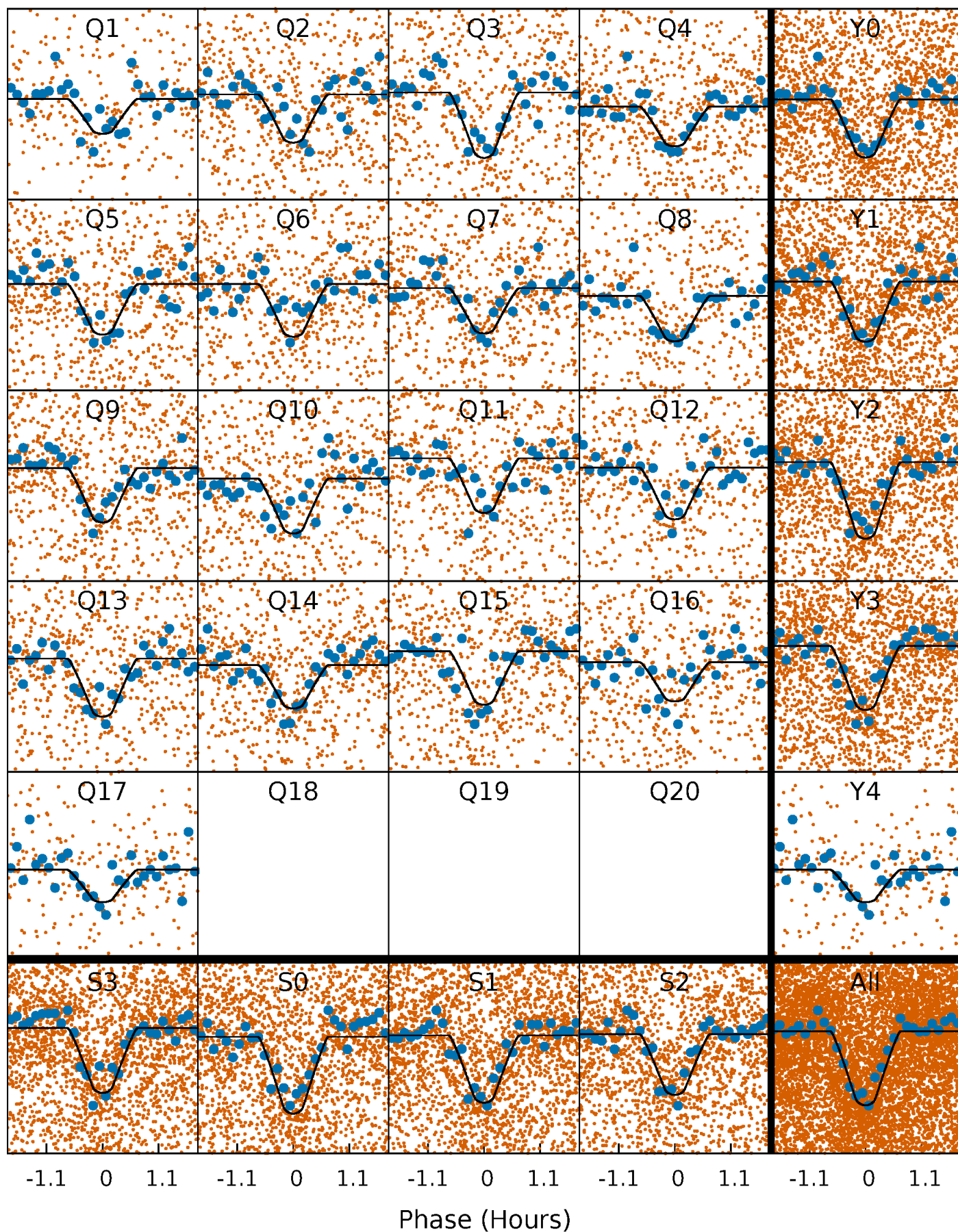
TCE 005980208-01 P= 0.789165 Days  $T_0=131.503932$  (BKJD)





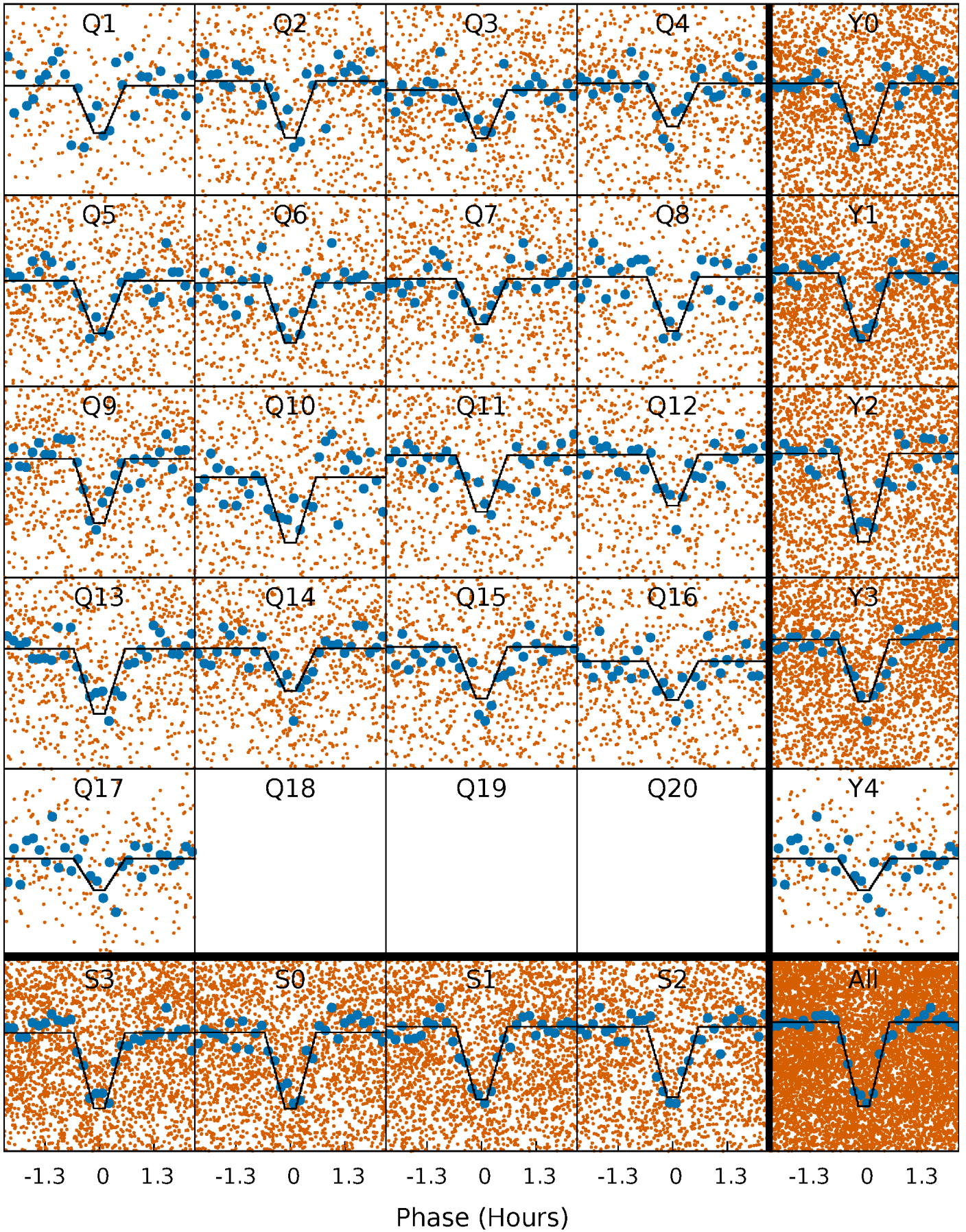
# DV Quarter-Phased Transit Curves

TCE 005980208-01 P= 0.789165 Days  $T_0=131.503932$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

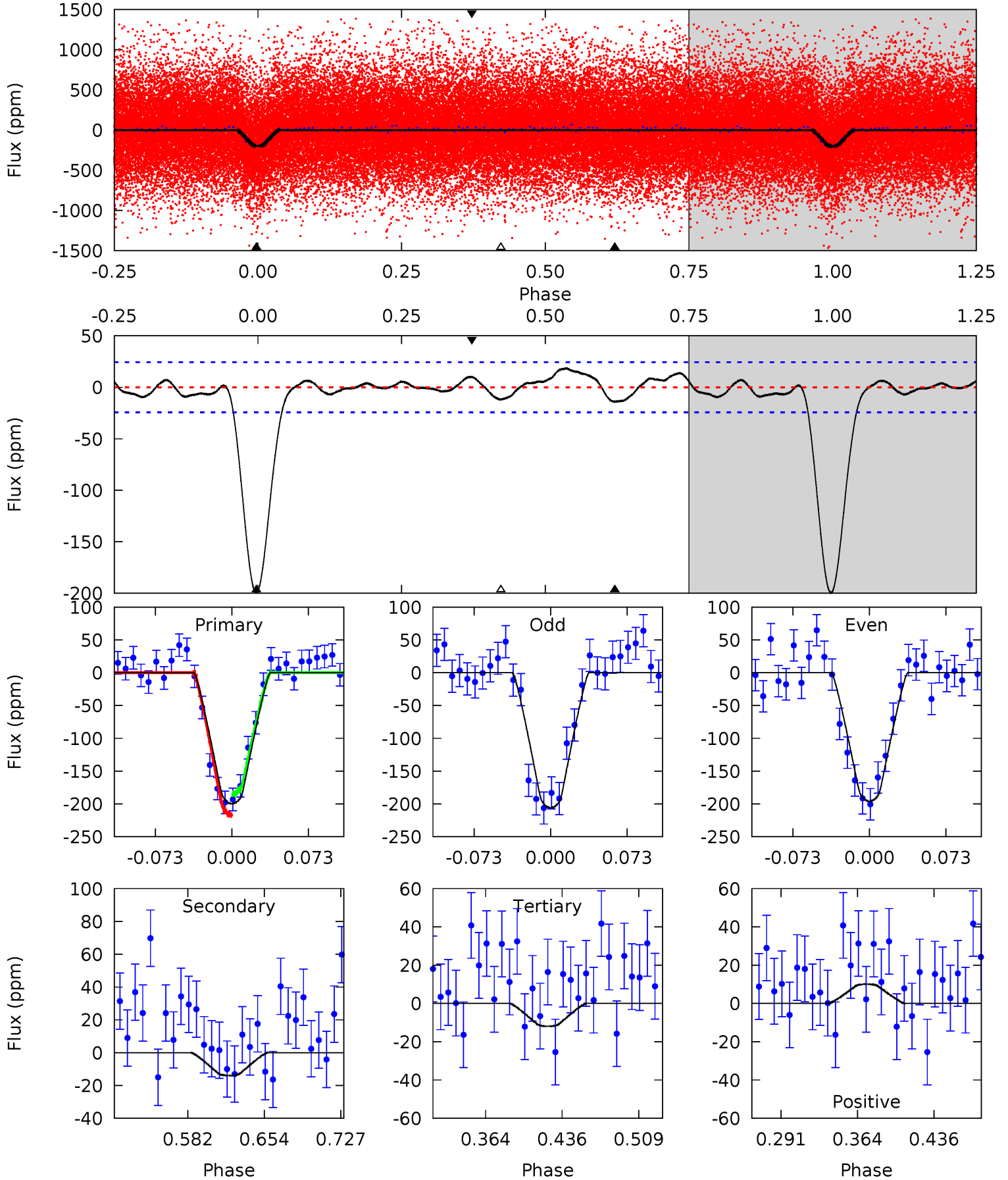
TCE 005980208-01 P= 0.789155 Days  $T_0=131.510987$  (BKJD)



# DV Model-Shift Uniqueness Test

005980208-01, P = 0.789165 Days, E = 131.503932 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
38.0	2.66	2.27	1.92	4.63	1.79	1.29	35.7	36.1	0.39	0.74	0.97	0.93	0.08	3.06

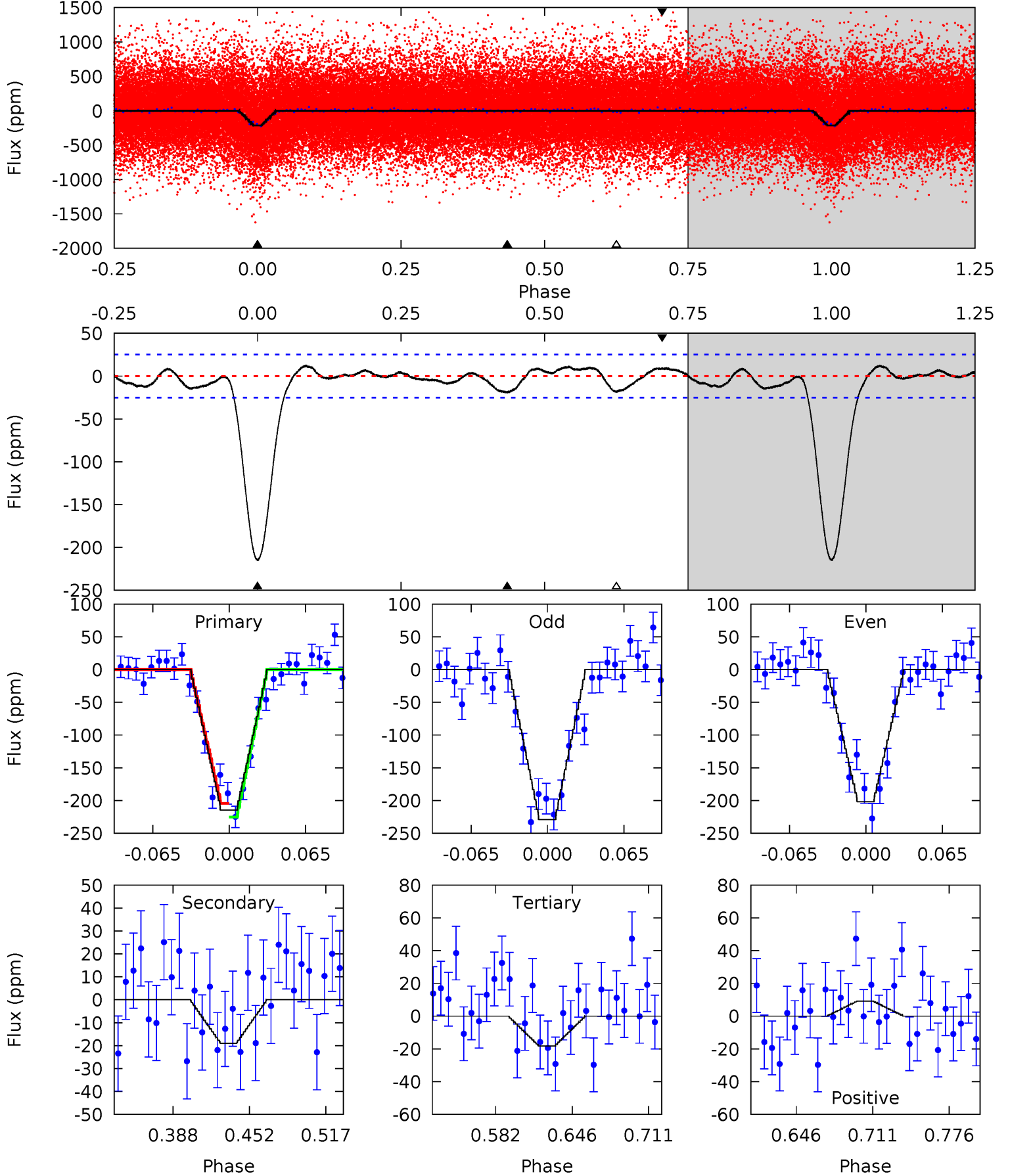




# Alt Model-Shift Uniqueness Test

005980208-01, P = 0.789155 Days, E = 131.510987 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
39.7	3.51	3.38	1.70	4.66	1.85	1.39	36.4	38.0	0.13	1.82	2.54	0.94	0.05	1.94



### Stellar Parameters For KIC 005980208

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$4258^{+114}_{-139}$	$4.635^{+0.053}_{-0.021}$	$-0.180^{+0.300}_{-0.300}$	$0.622^{+0.039}_{-0.064}$	$0.610^{+0.060}_{-0.055}$	$3.565^{+0.890}_{-0.348}$
	+3%/-3%	+1%/-0%	+167%/-167%	+6%/-10%	+10%/-9%	+25%/-10%
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 005980208-01 / KOI 2742.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-14 \pm 5$	$1.13^{+0.52}_{-0.51}$	$1722^{+59}_{-61}$	$2587^{+529}_{-431}$	$1.236^{+2.657}_{-0.736}$
Alt.	$-19 \pm 5$	$1.03^{+0.55}_{-0.52}$	$1726^{+53}_{-63}$	$2789^{+656}_{-399}$	$1.998^{+5.585}_{-1.213}$

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



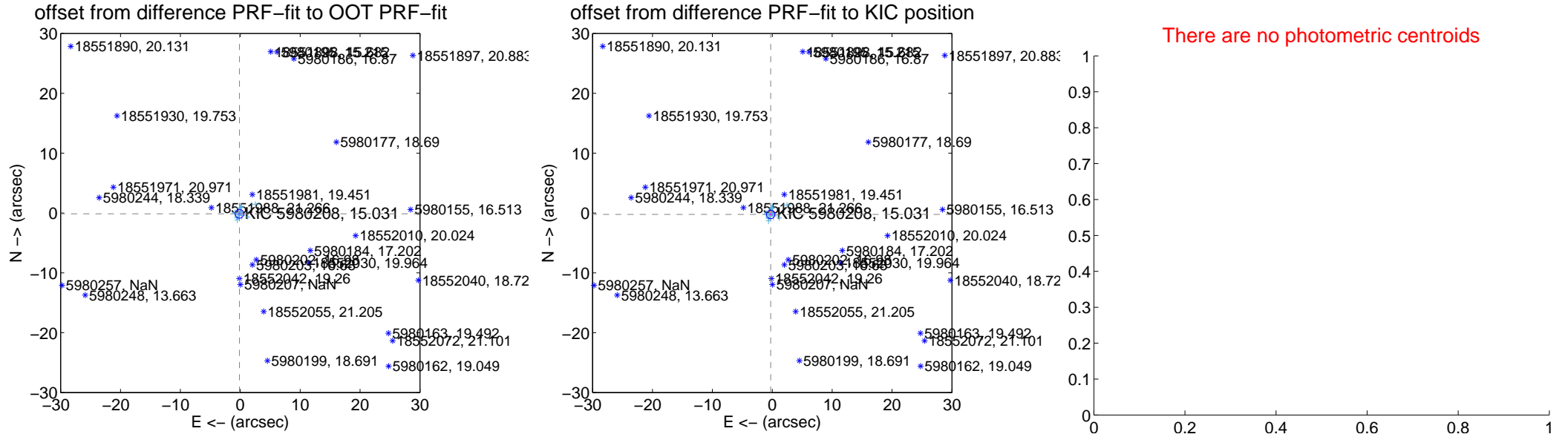
## DV Centroid Data

Supplemental centroid analysis for 005980208-01. Kepler magnitude: 15.03. Transit SNR 25.02

There are 16 quarters with good PRF difference image offsets

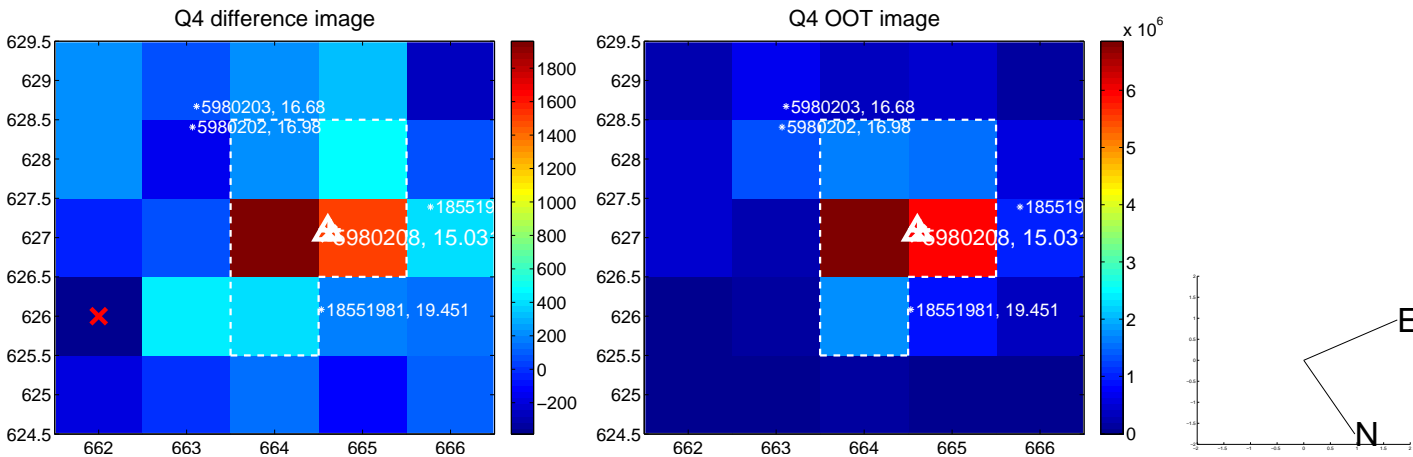
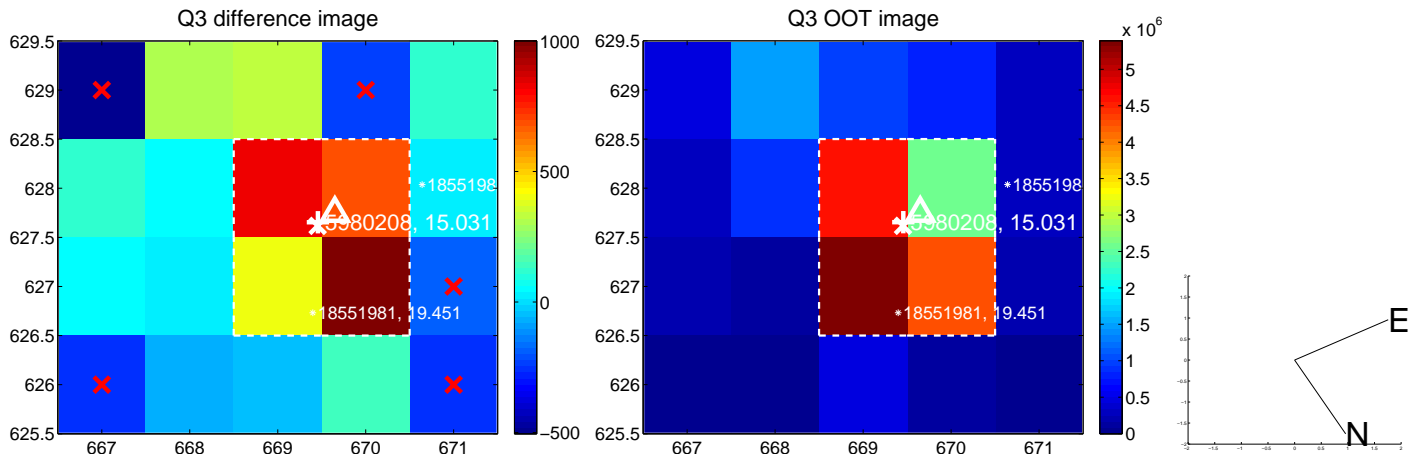
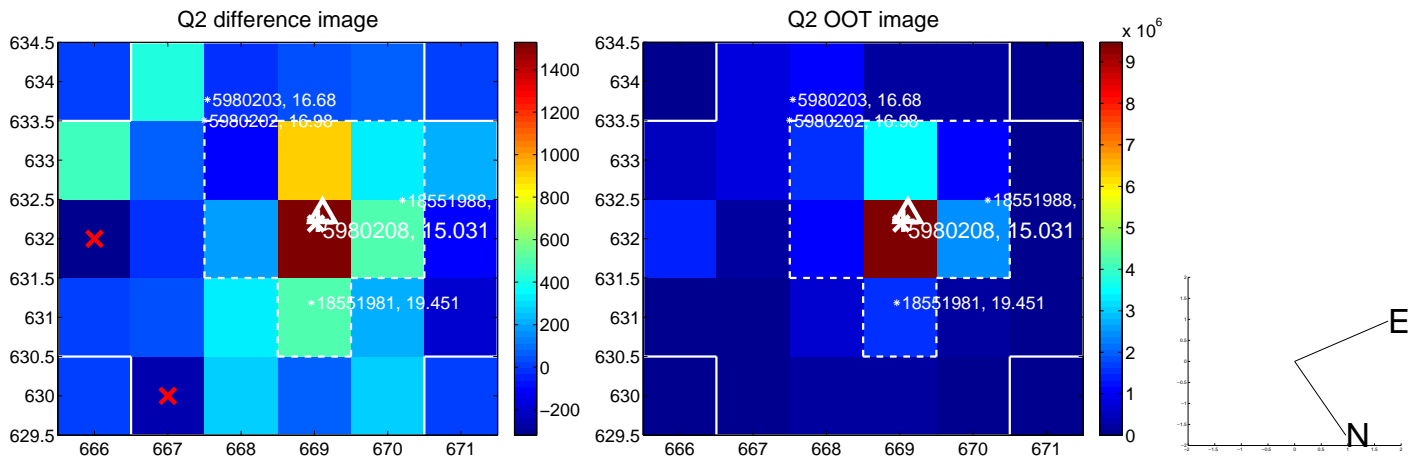
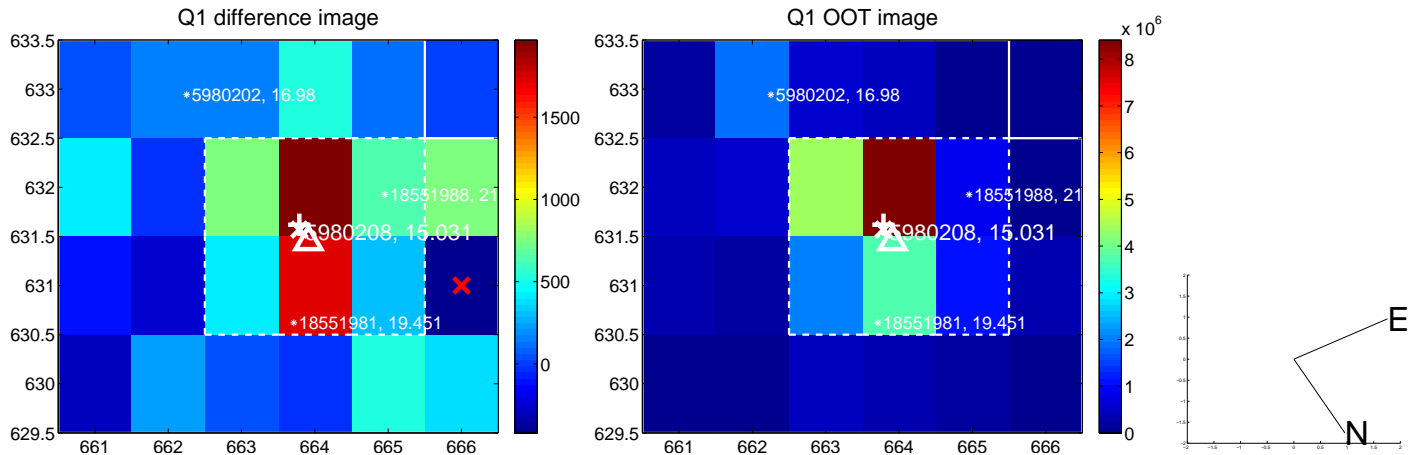
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.192 \pm 0.243$	0.79	$0.138 \pm 0.215$	$-0.134 \pm 0.187$
PRF-fit source offset from KIC position	$0.353 \pm 0.236$	1.49	$0.266 \pm 0.206$	$-0.232 \pm 0.193$
photometric centroid source offset	—	—	—	—

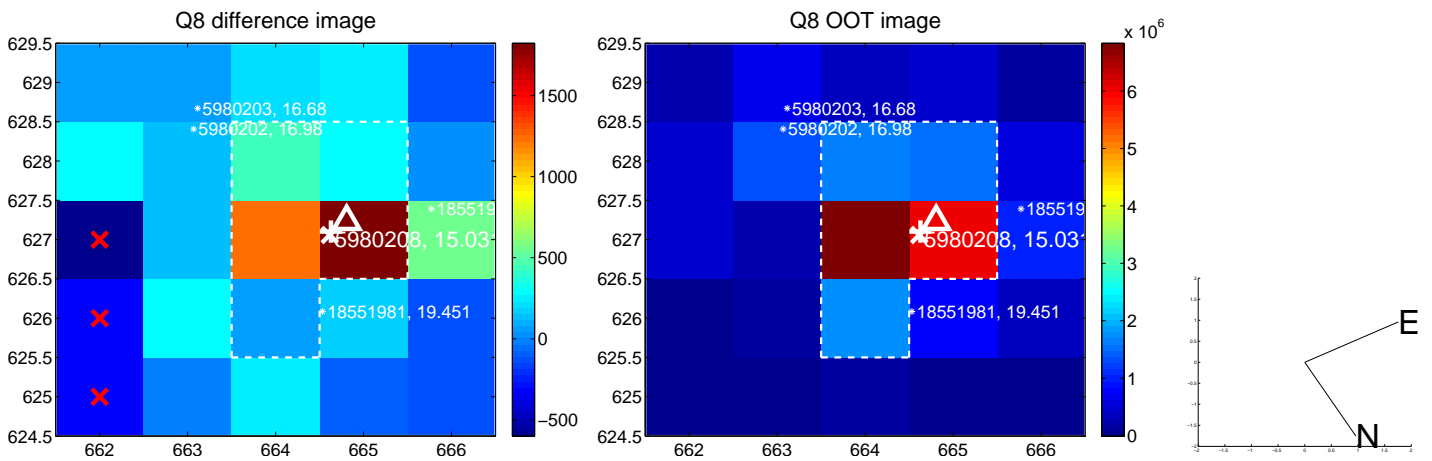
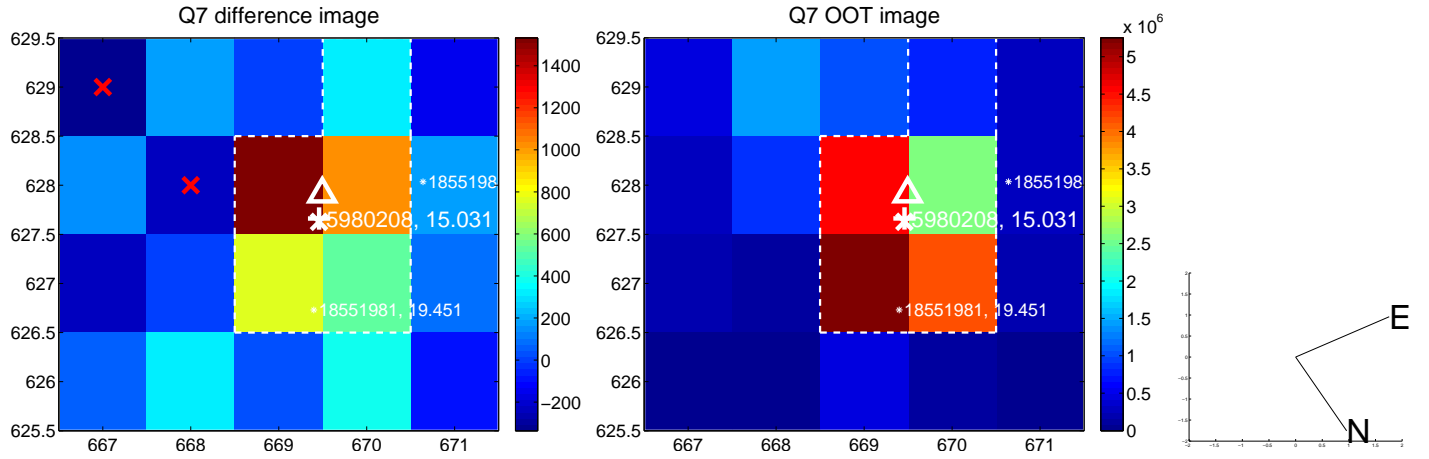
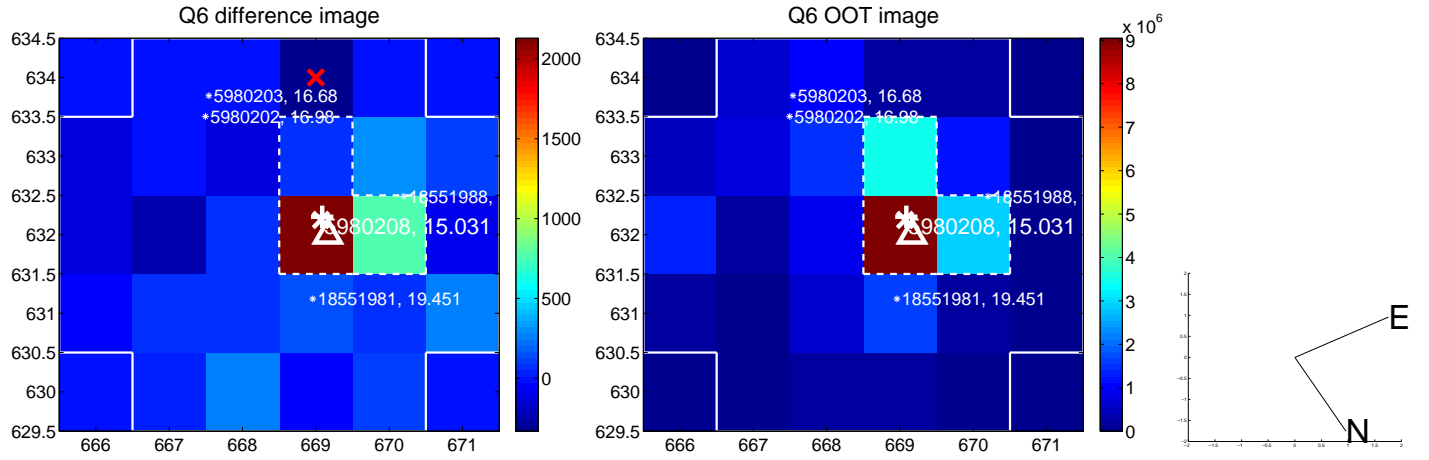
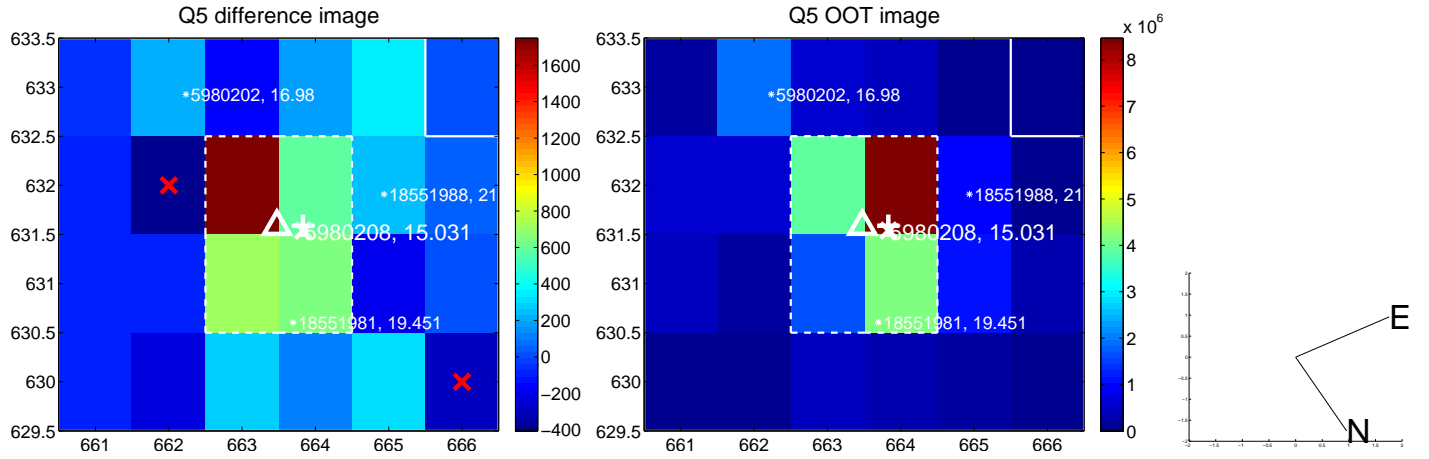


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

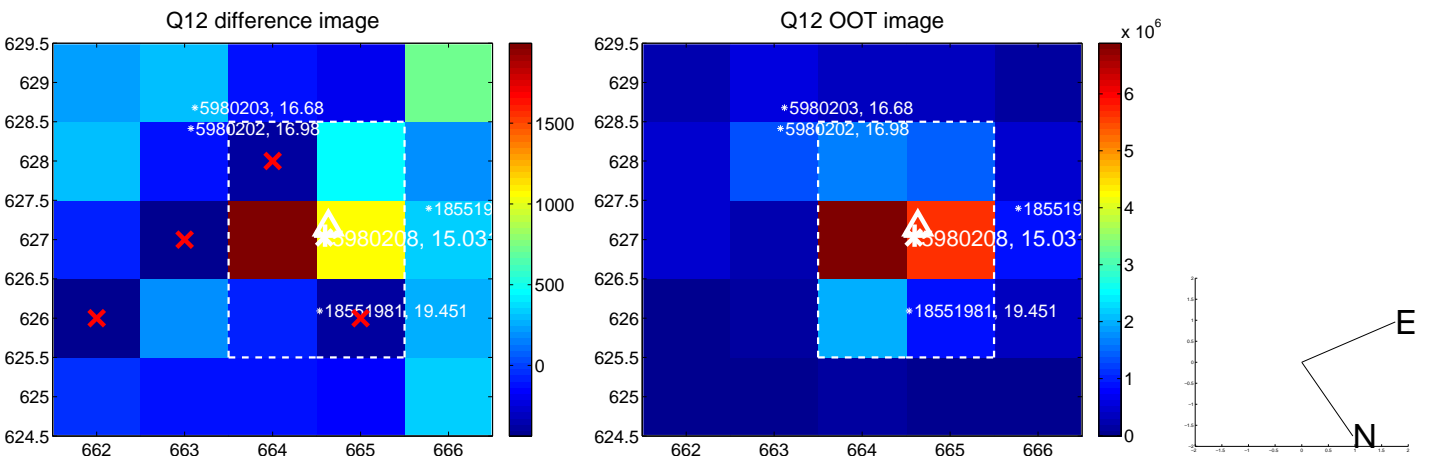
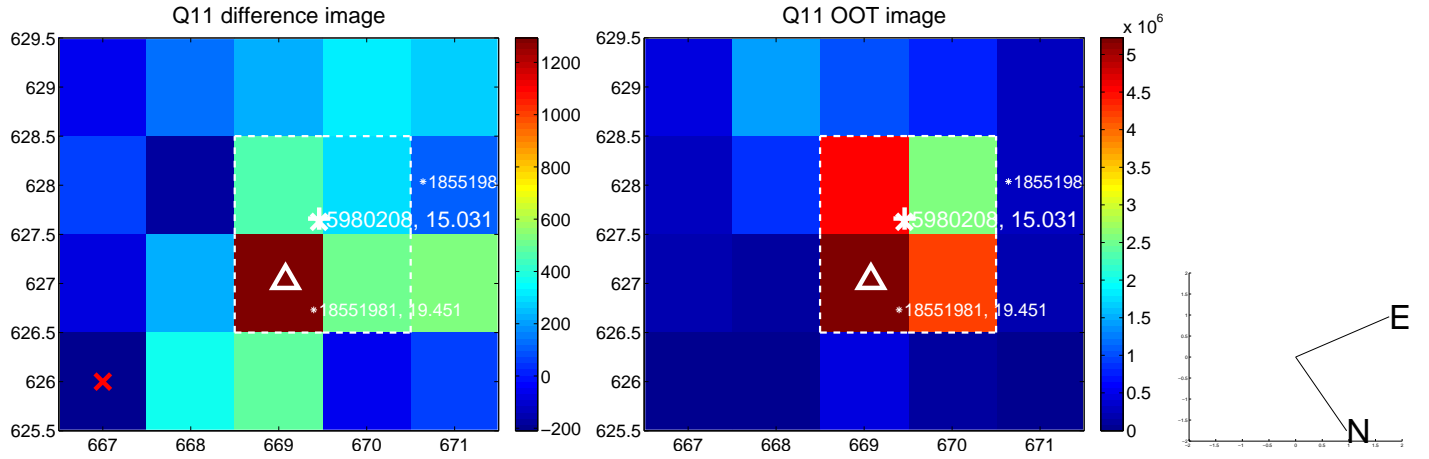
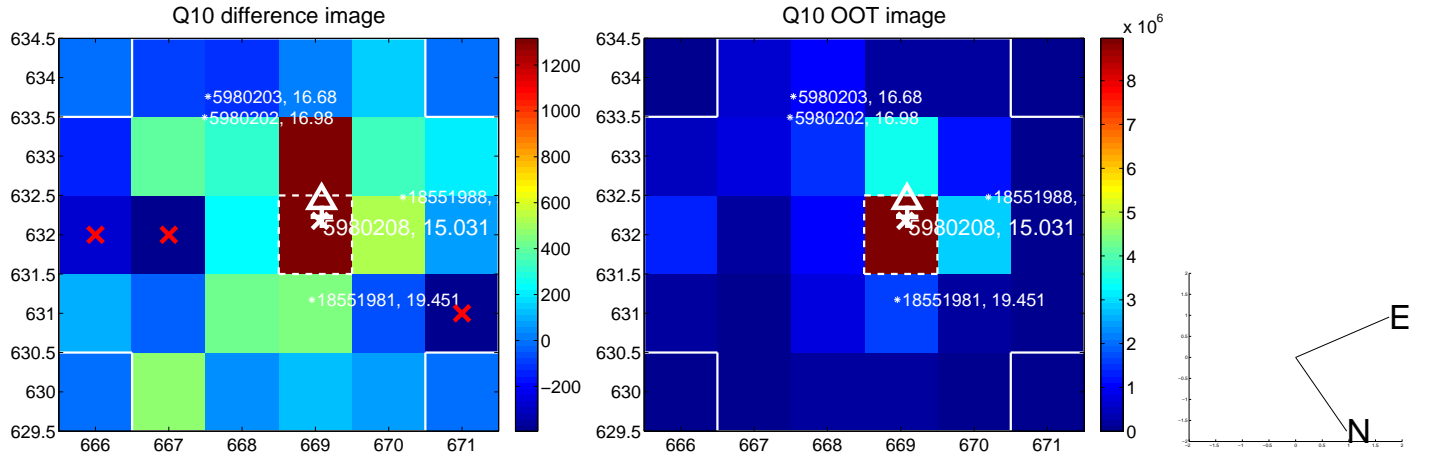
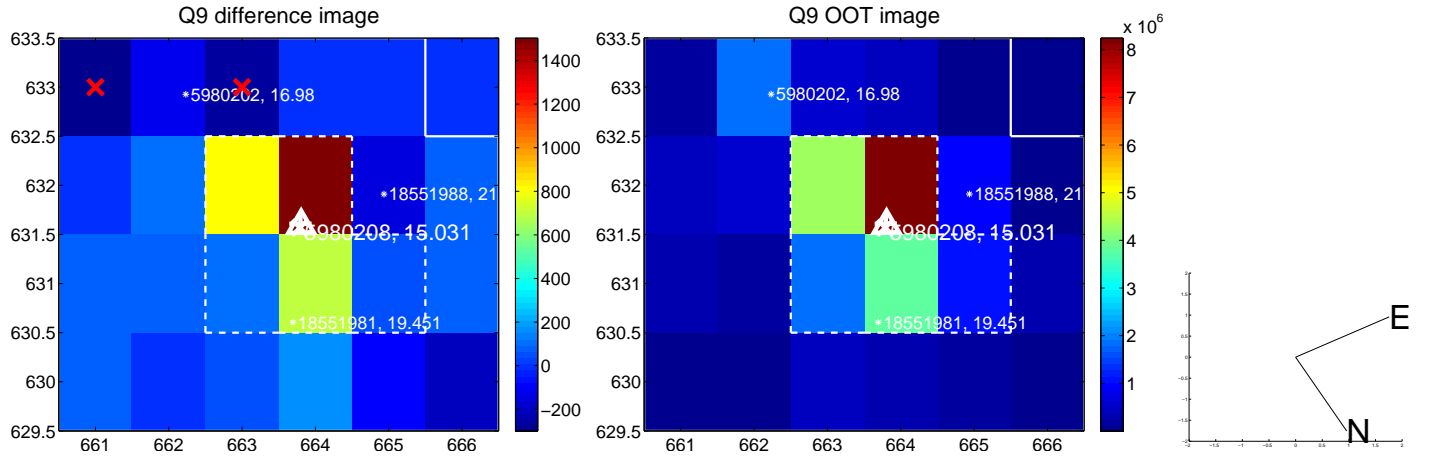
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



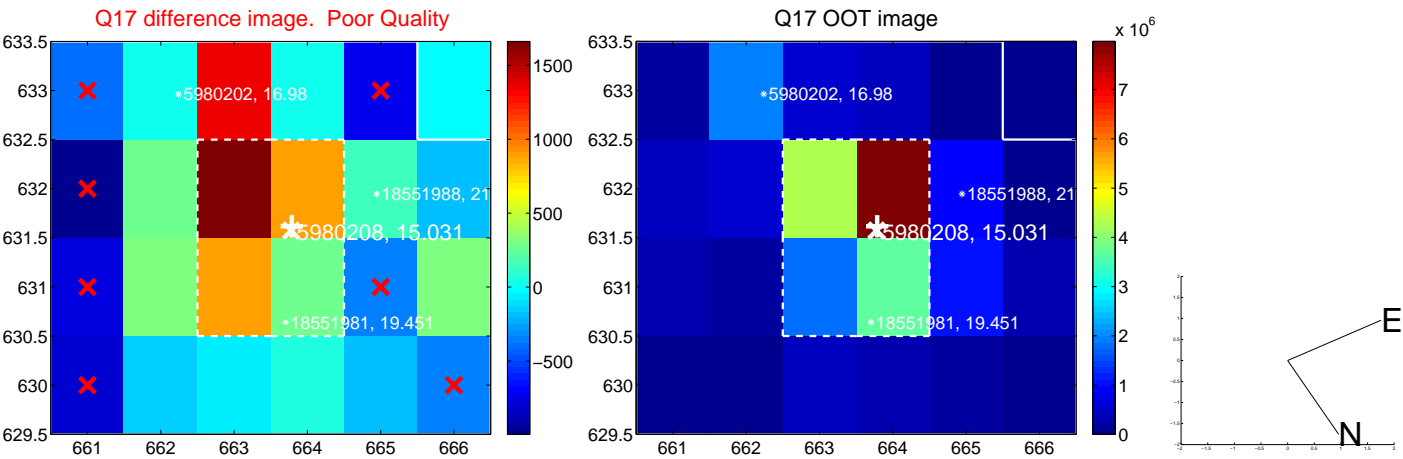
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.







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



folded centroid time series figure for this object.

UKIRT Image

