

# KIC 005201872

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005201872-01	OBS	No	0.659339	131.931739	3.0	6.455	9.9	8.4	2.25	8122	0.40	59913.20

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005201872-01	OBS	FP	0.00	1	0	0	0	LPP_DV—CENT_SATURATED

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

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

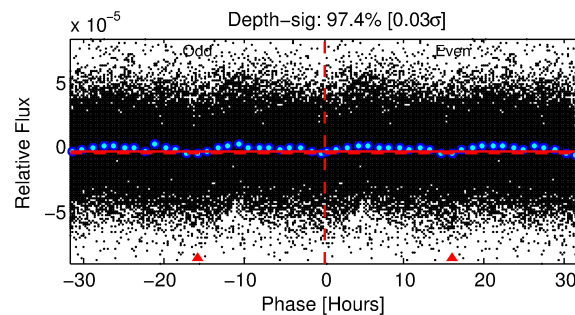
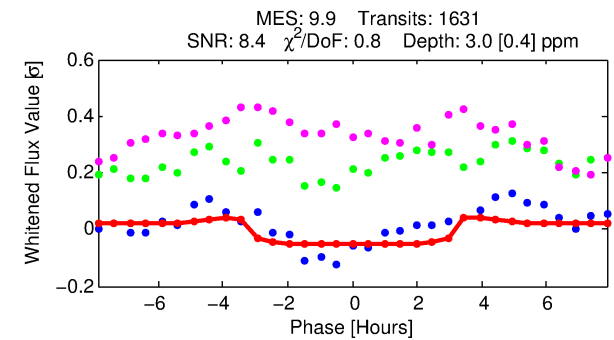
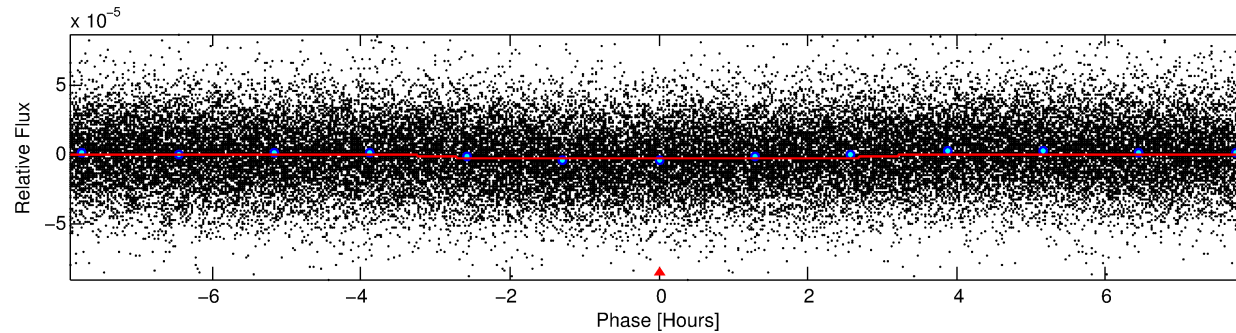
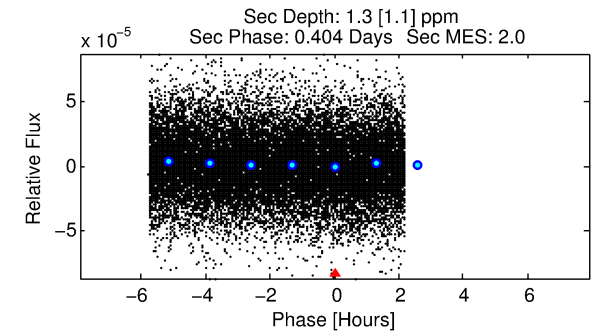
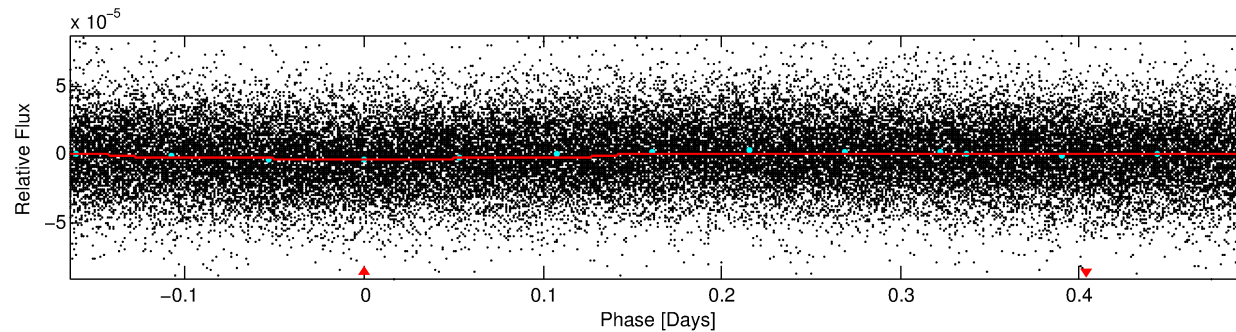
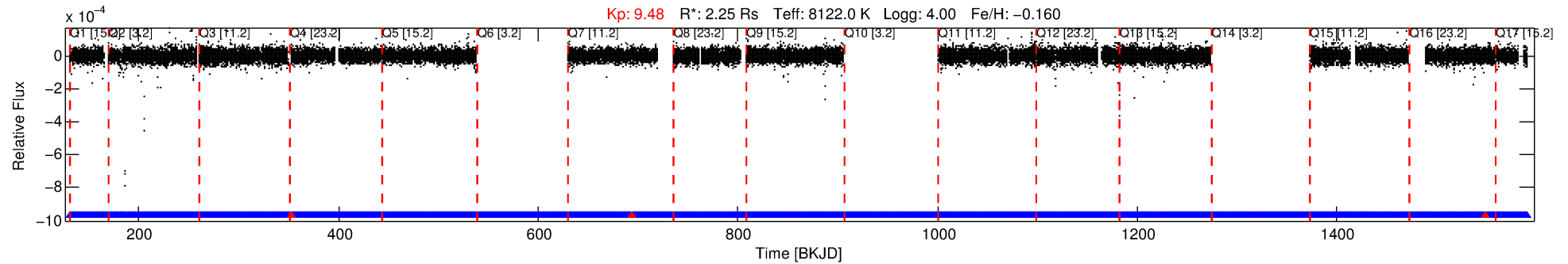
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 005201872-01

No Significant Match Found

# DV One-Page Summary

KIC: 5201872 Candidate: 1 of 1 Period: 0.659 d



## DV Fit Results:

Period = 0.65934 [0.00001] d  
Epoch = 131.9317 [0.0043] BKJD  
Rp/R\* = 0.0016 [0.0008]  
a/R\* = 1.04 [0.20]  
b = 0.46 [4.86]  
Seff = 59913.20 [25466.78]  
Teff = 3989 [424] K  
Rp = 0.40 [0.23] Re  
a = 0.0182 [0.0047] AU  
Ag = 1.48 [2.01] [0.24σ]  
Teffp = 6808 [2221] K [1.25σ]

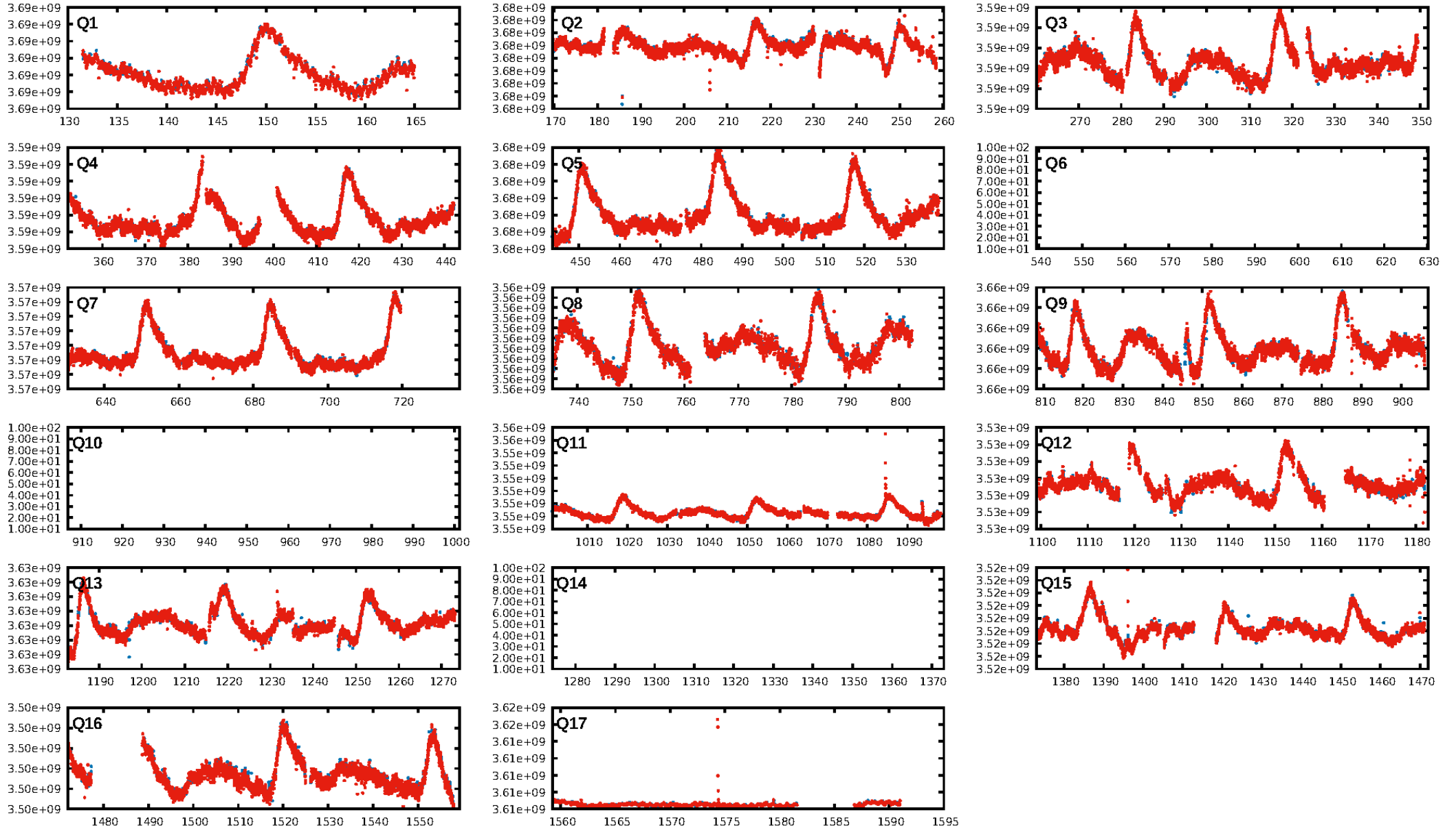
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1536/1539]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0 [0]  
KicOffset-st: 0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [14/14]

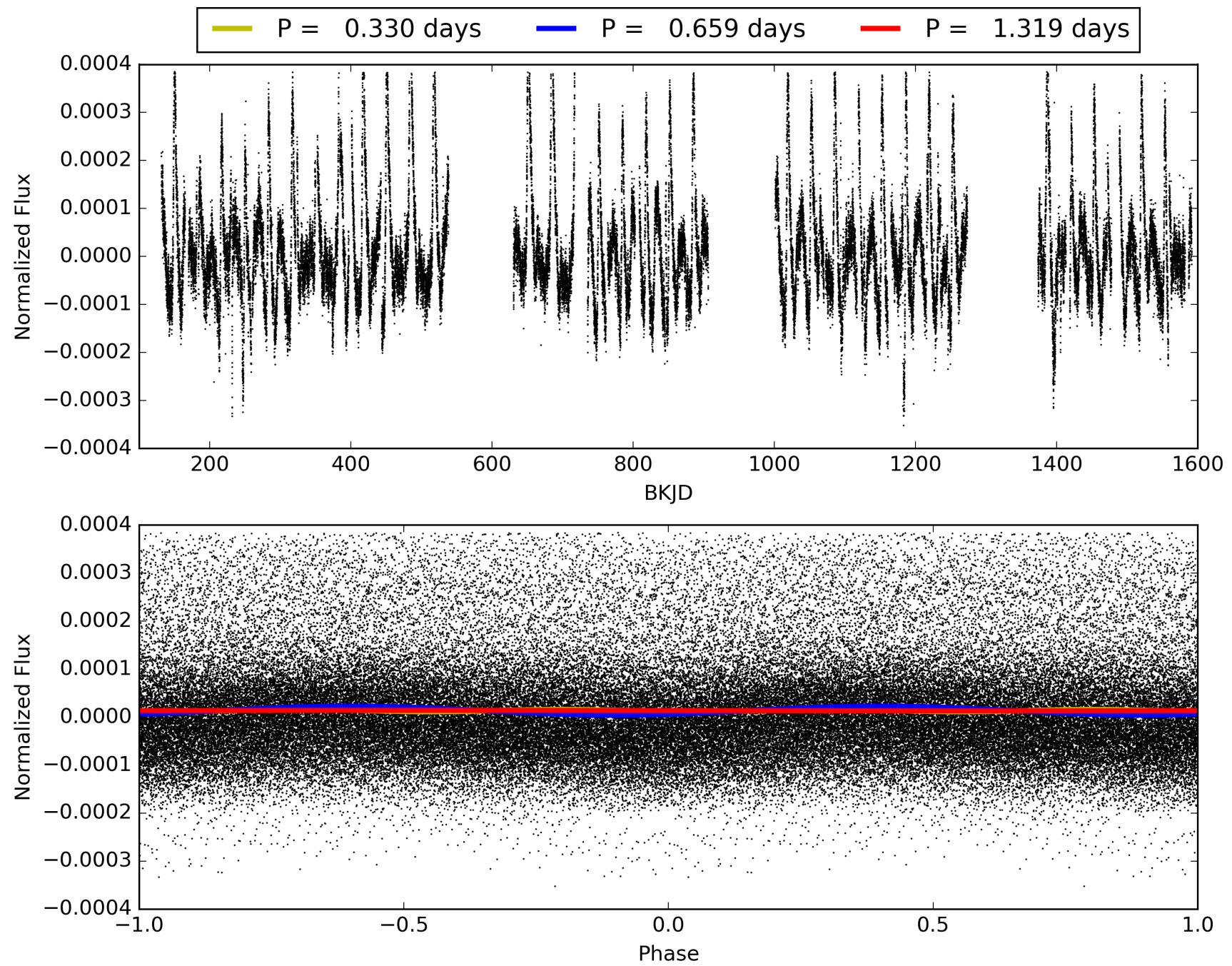
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 03:29:44 Z

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

# TCE 005201872-01, PDC Light Curves

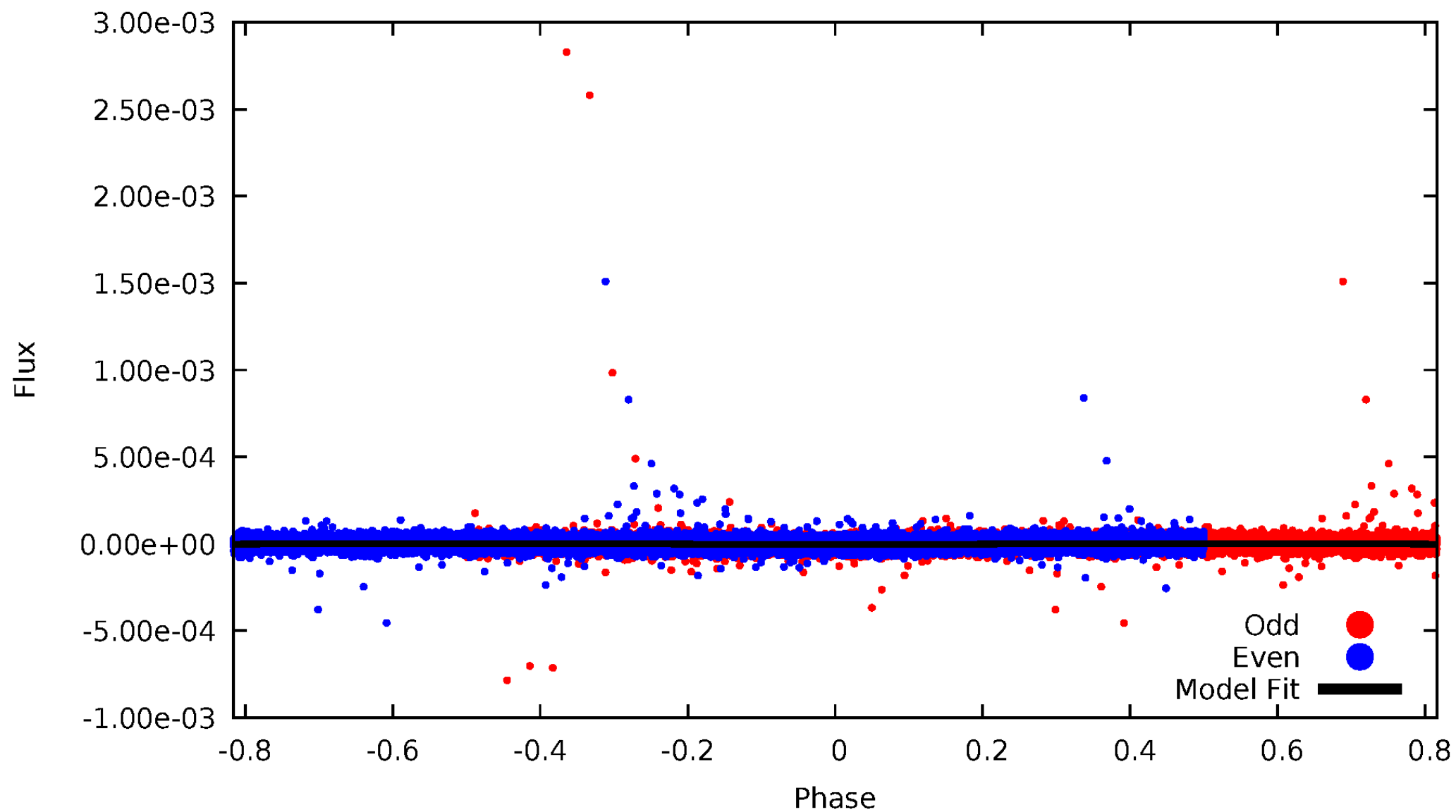


TCE 005201872-01



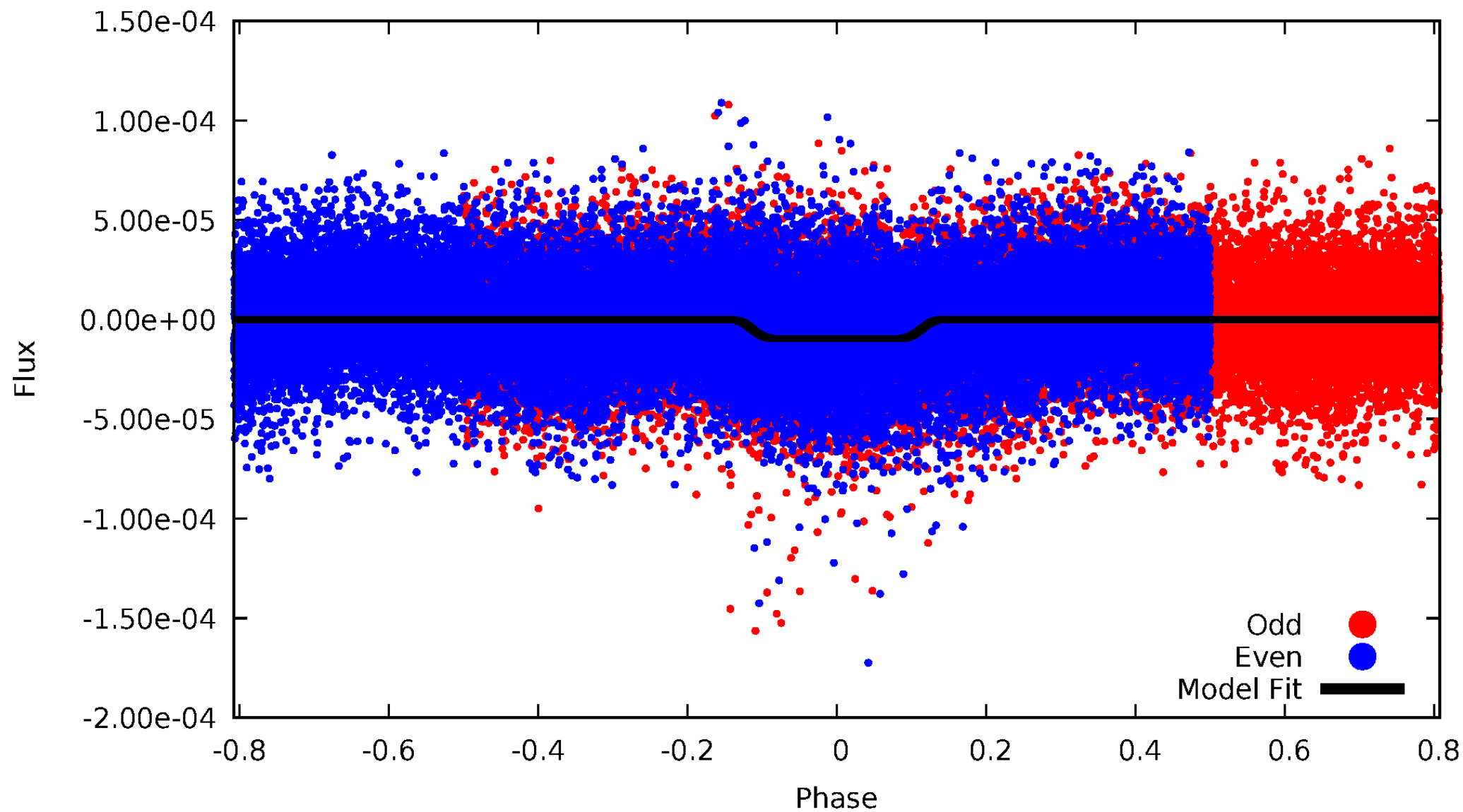
# DV Odd/Even

TCE 005201872-01



# ALT Odd/Even

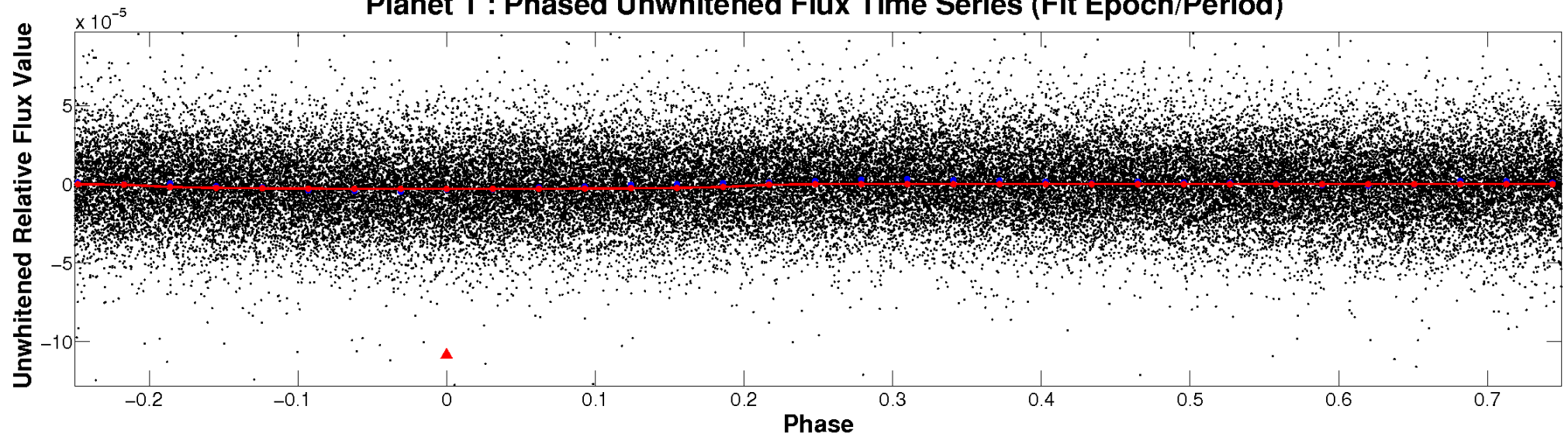
TCE 005201872-01



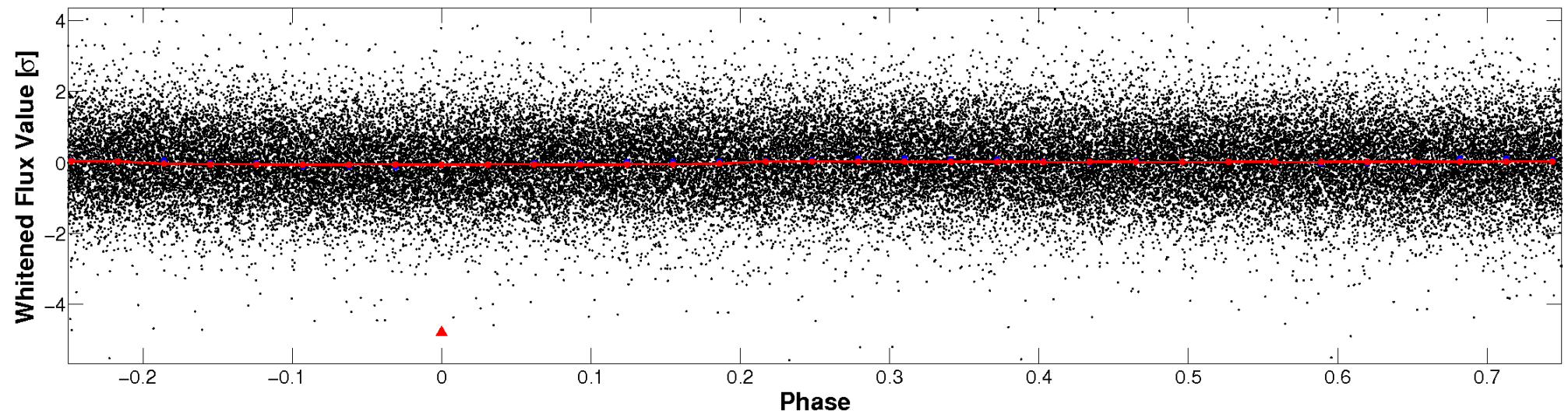


# Non-Whitened Vs. Whitened Light Curve

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

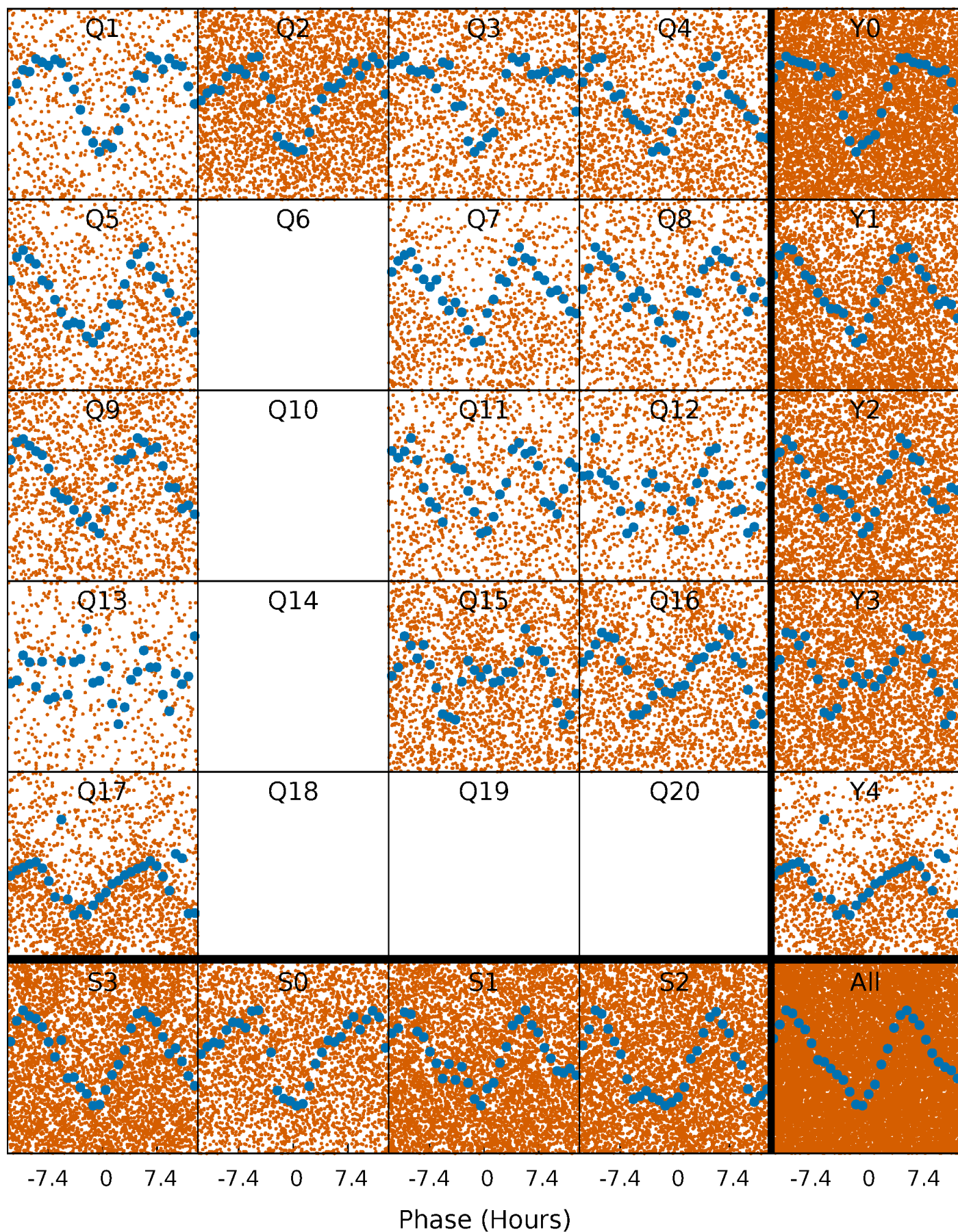


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

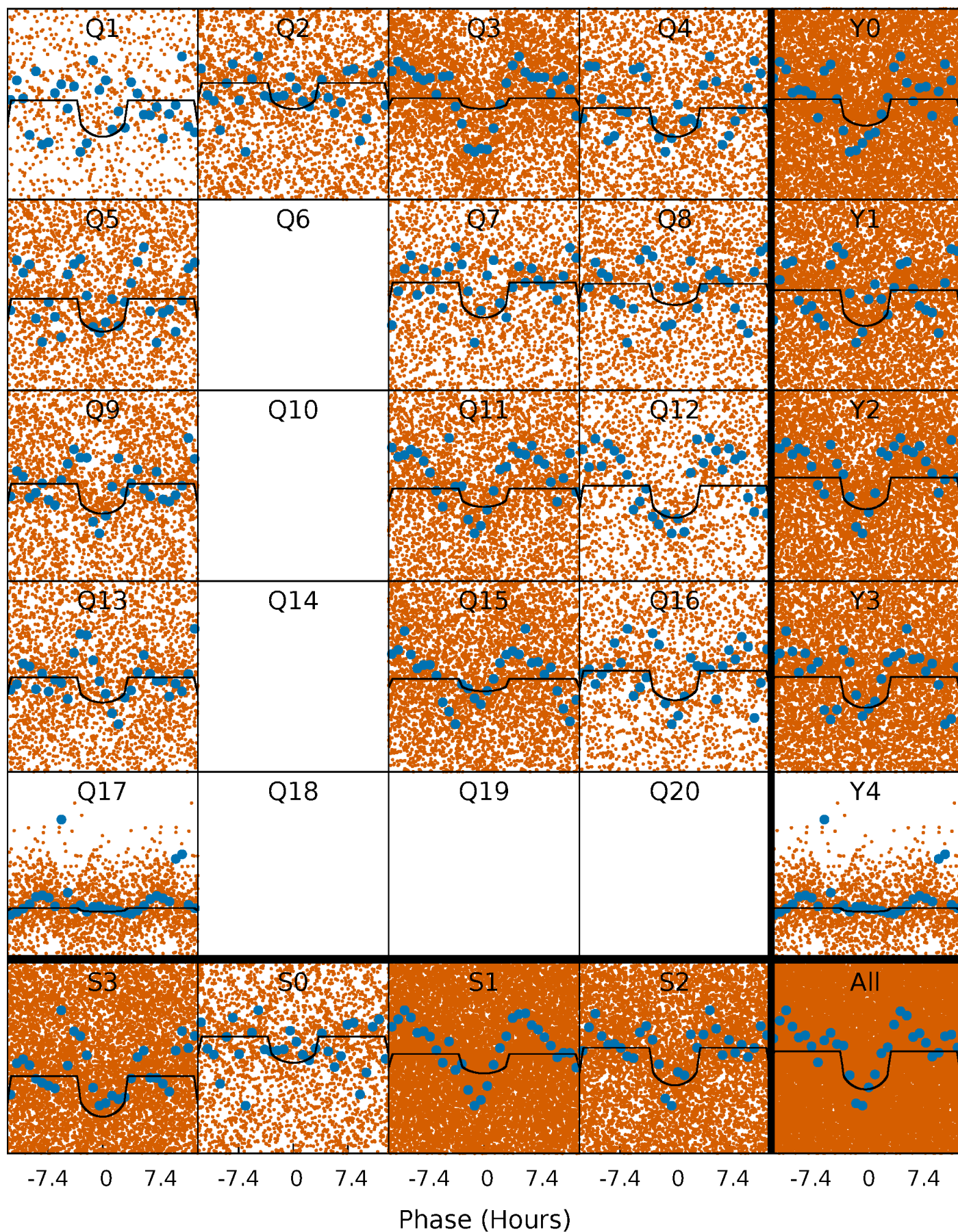
TCE 005201872-01 P= 0.659339 Days  $T_0=131.931739$  (BKJD)





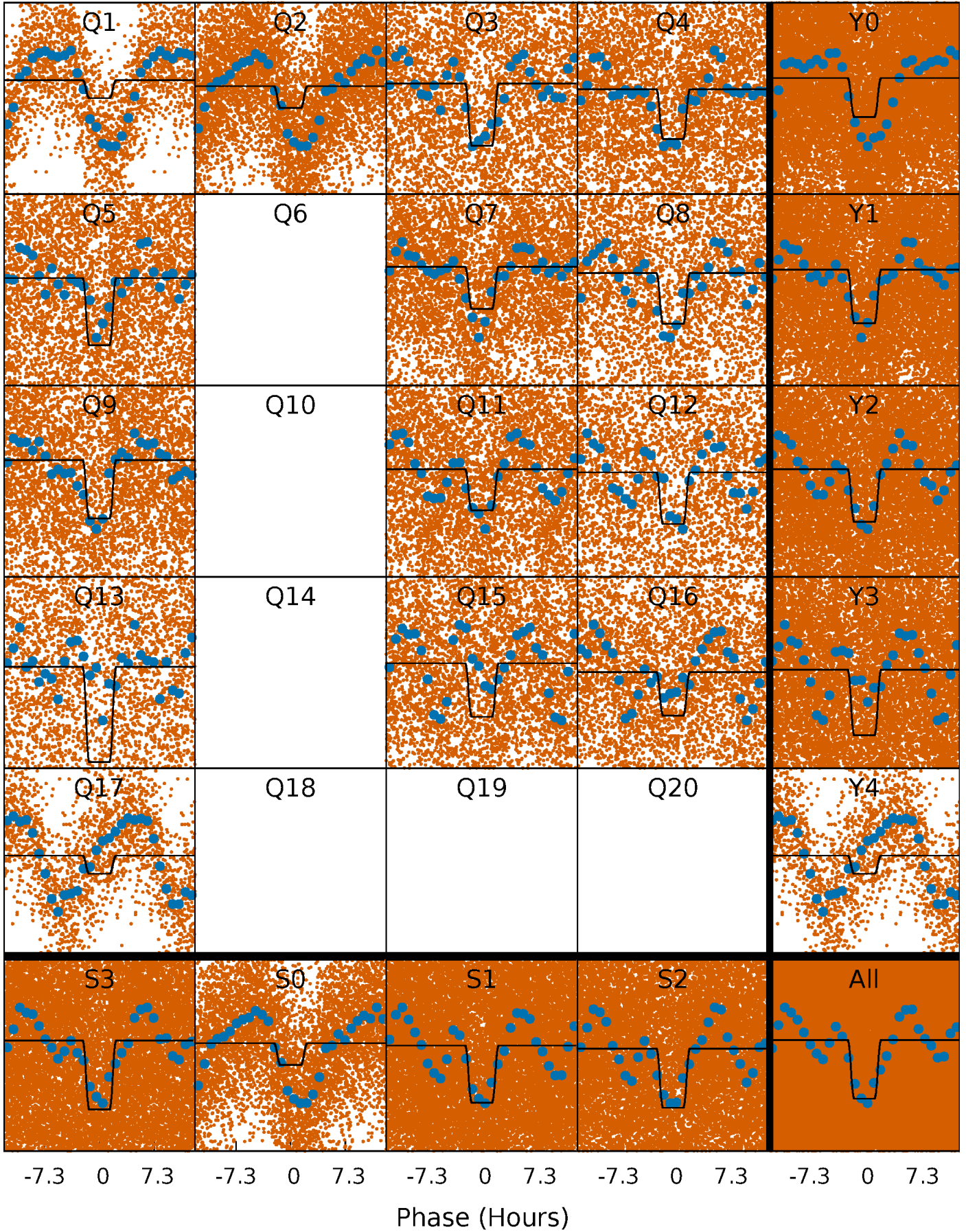
# DV Quarter-Phased Transit Curves

TCE 005201872-01 P= 0.659339 Days  $T_0=131.931739$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 005201872-01 P= 0.659392 Days  $T_0=131.869350$  (BKJD)

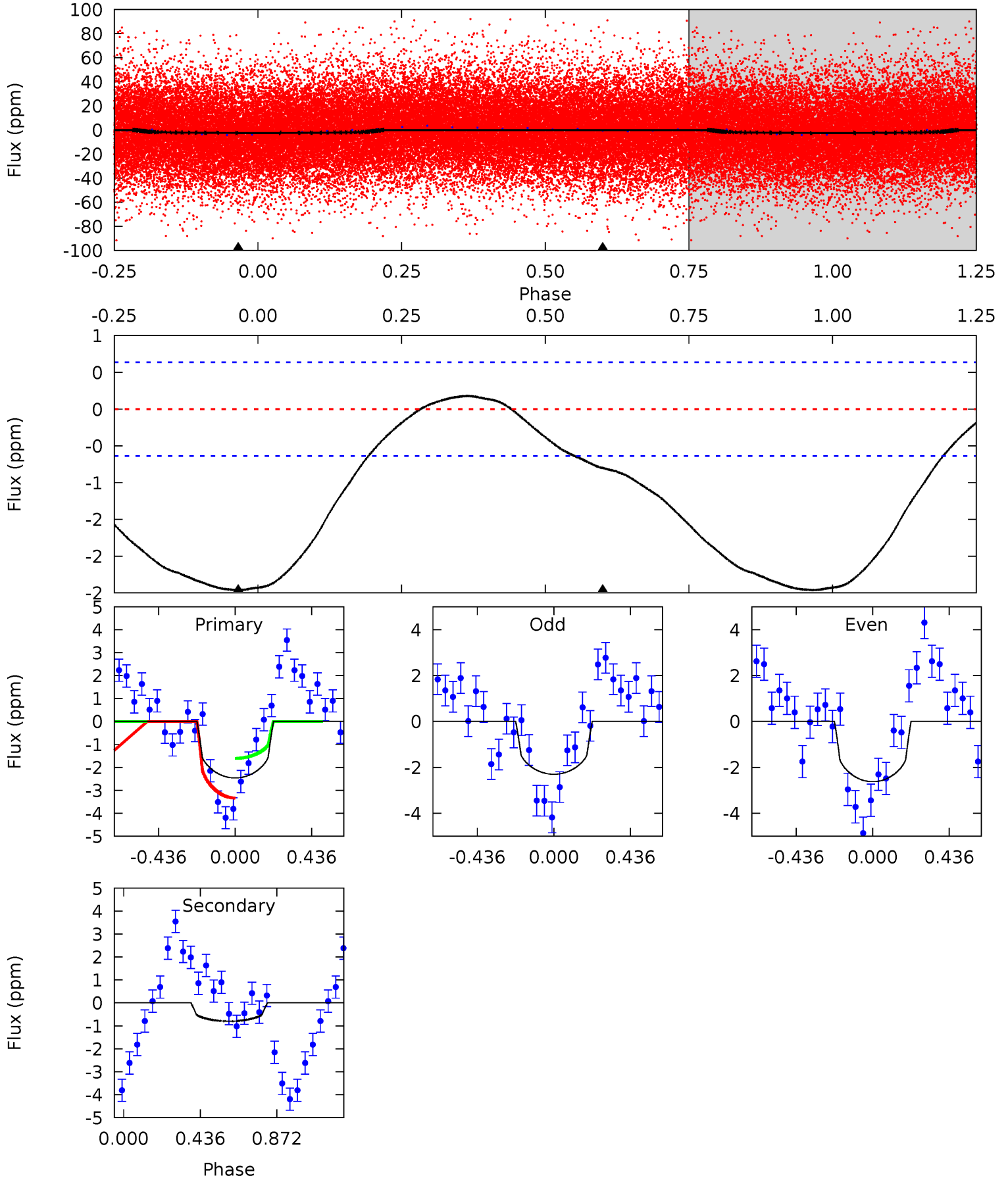




# DV Model-Shift Uniqueness Test

005201872-01, P = 0.659339 Days, E = 131.272400 Days

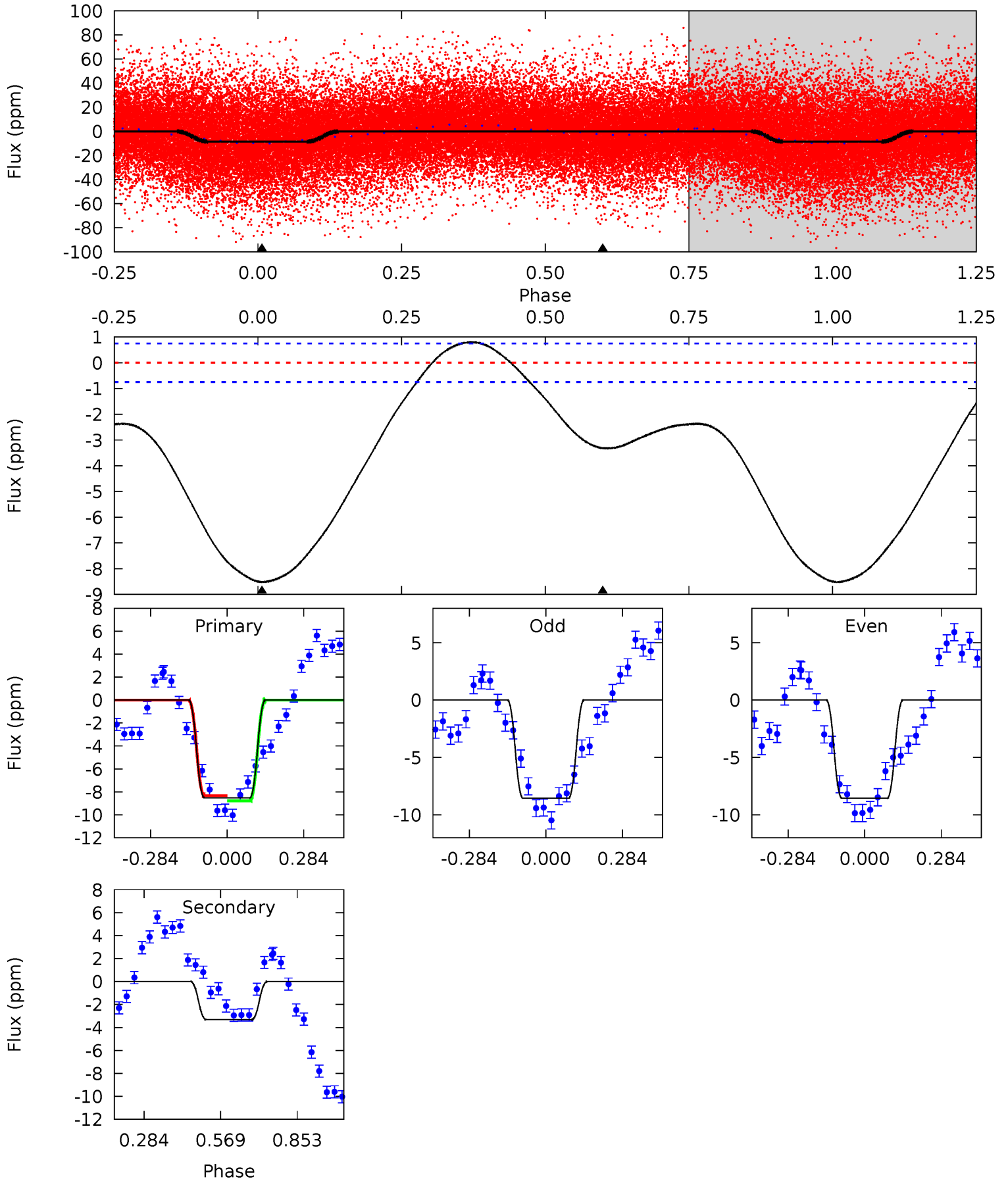
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.4	5.33	0	0	4.25	0.78	0.90	16.4	16.4	5.33	5.33	1.07	1.19	0.07	5.77



# Alt Model-Shift Uniqueness Test

005201872-01, P = 0.659392 Days, E = 131.209958 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
49.2	19.2	0	0	4.34	1.07	3.89	49.2	49.2	19.2	19.2	0.01	1.04	0.09	1.22





### Stellar Parameters For KIC 005201872

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$8122^{+226}_{-340}$	$3.997^{+0.221}_{-0.136}$	$-0.160^{+0.200}_{-0.350}$	$2.250^{+0.436}_{-0.654}$	$1.831^{+0.120}_{-0.360}$	$0.227^{+0.279}_{-0.086}$
	+3%/-4%	+6%/-3%	+125%/-219%	+19%/-29%	+7%/-20%	+123%/-38%
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 005201872-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-1 \pm 0$	$0.38^{+0.20}_{-0.19}$	$5516^{+377}_{-404}$	$5369^{+3193}_{-1605}$	$0.976^{+3.157}_{-0.575}$
Alt.	$-3 \pm 0$	$0.73^{+0.22}_{-0.21}$	$5508^{+344}_{-457}$	$5555^{+1163}_{-801}$	$1.108^{+1.067}_{-0.448}$

$T_{max}$  = 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 005201872-01. **Kepler magnitude: 9.48.** Transit SNR 8.45

**There are 0 quarters with good PRF difference image offsets**

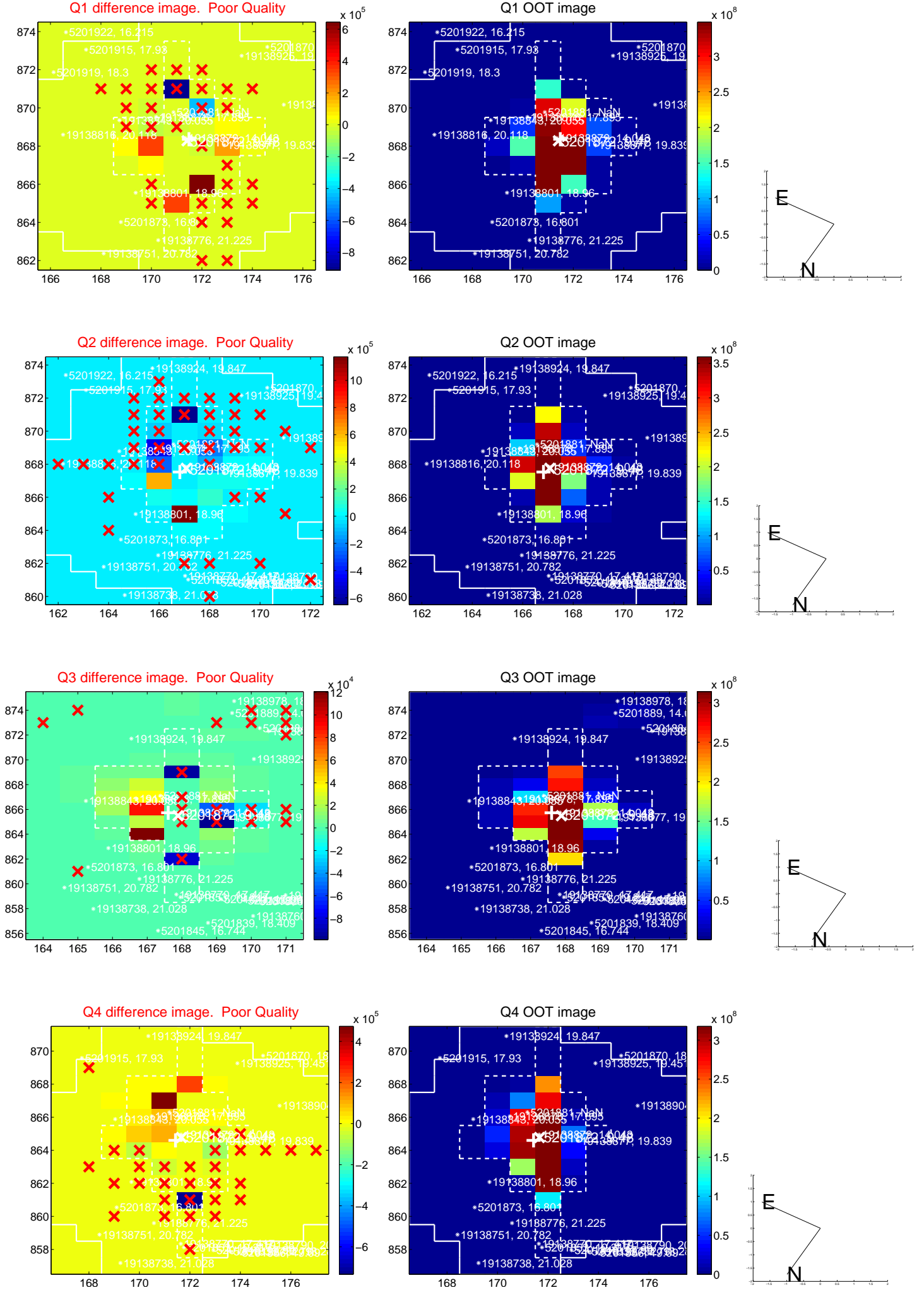
The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—

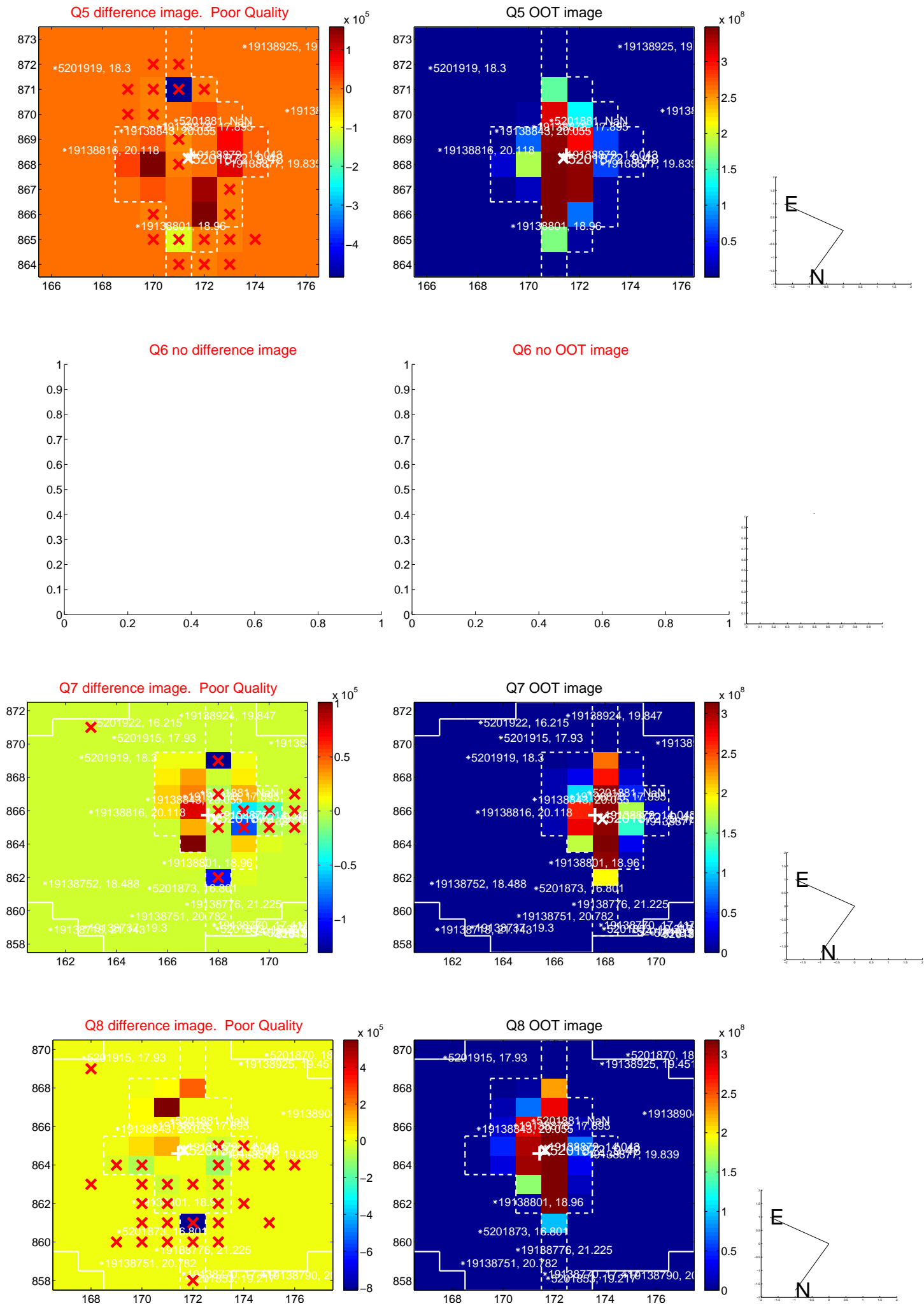


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets;** magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: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

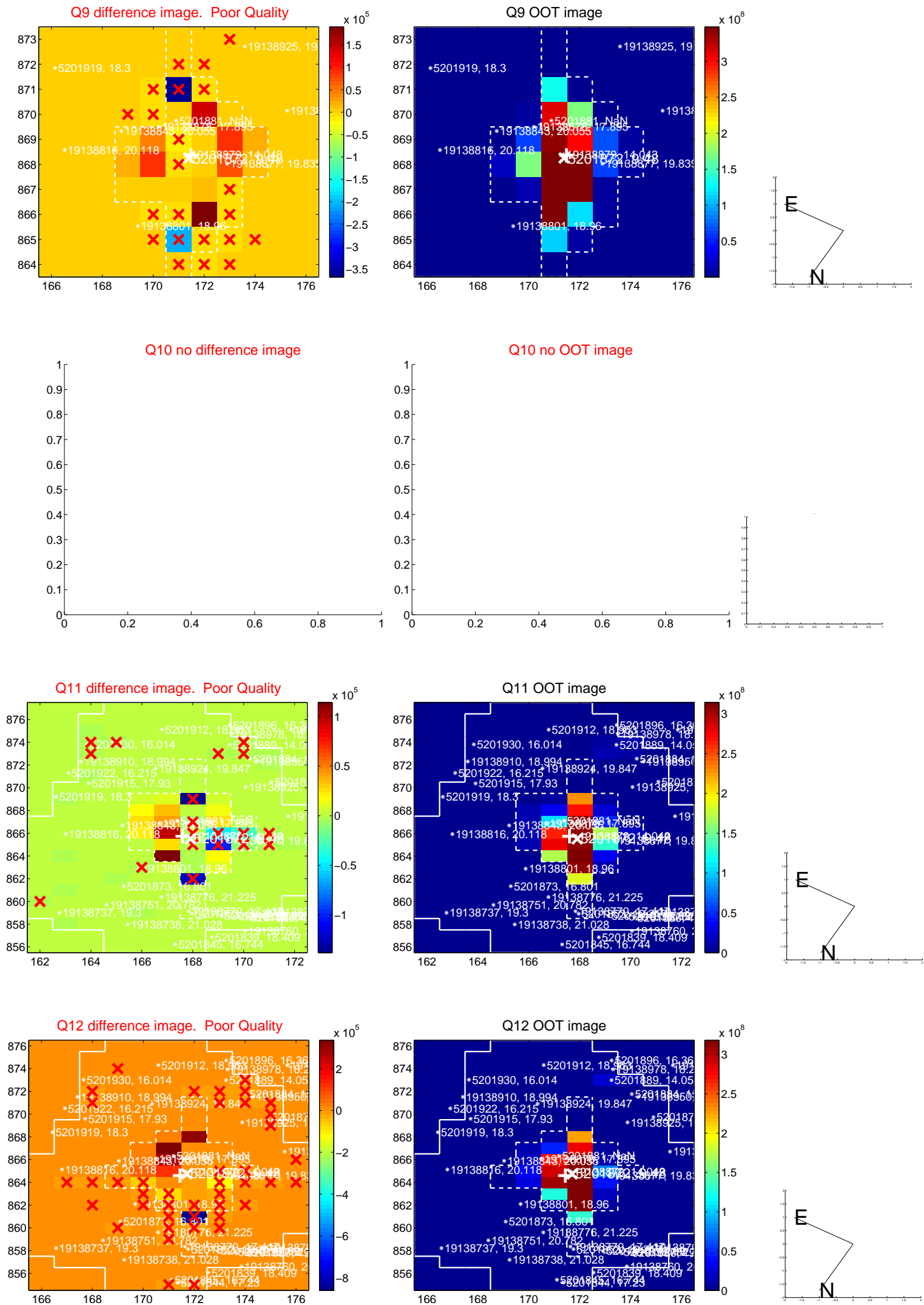


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

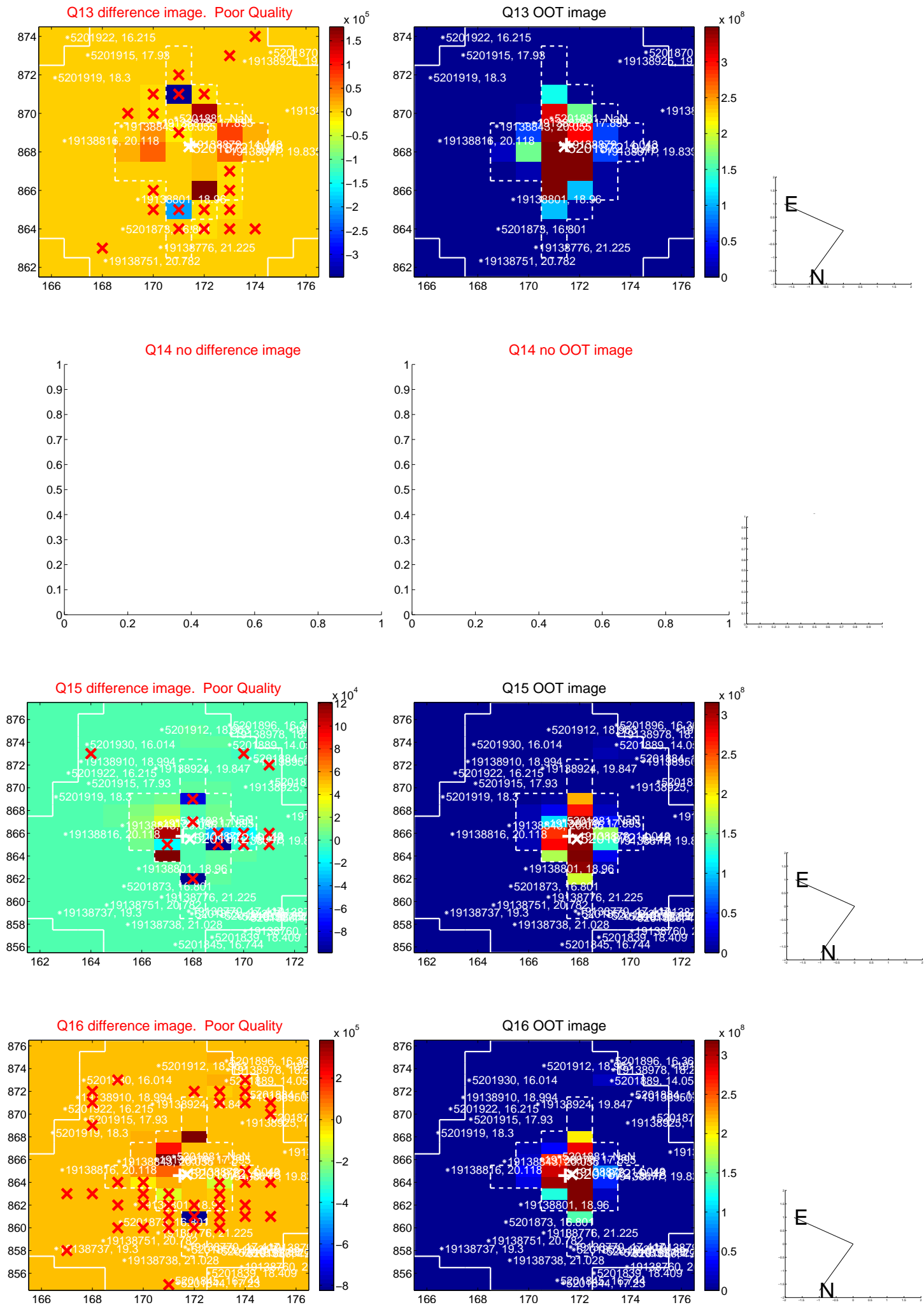




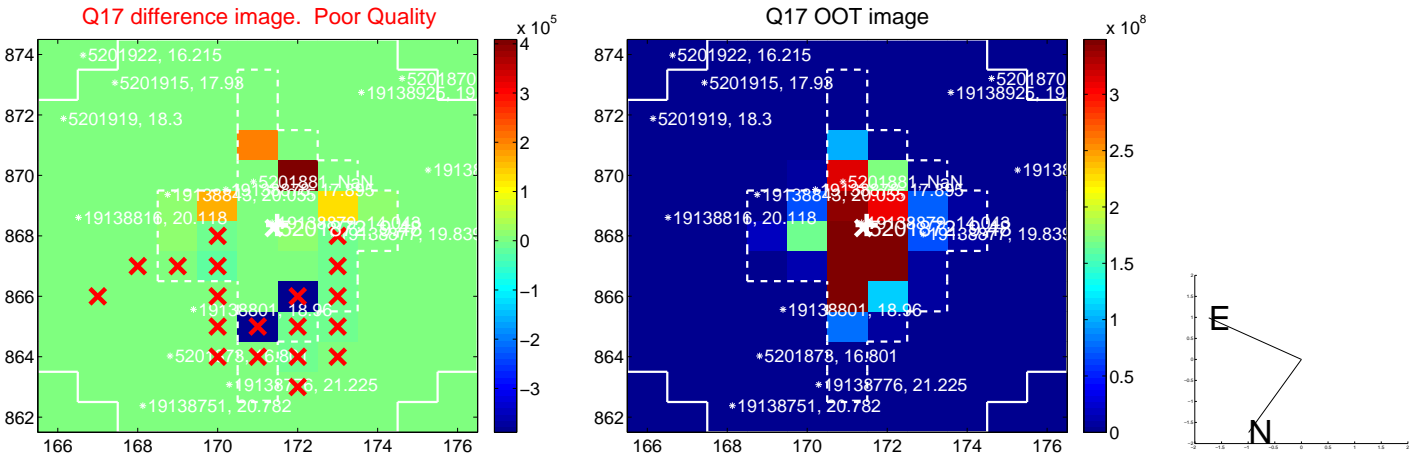
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



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

