

# KIC 005895588

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
005895588-01	OBS	3981.01	0.849280	132.173811	328.0	1.794	21.8	25.5	0.85	5743	1.83	2384.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005895588-01	OBS	FP	0.13	0	0	1	0	CENT_RESOLVED_OFFSET

**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 005895588-01

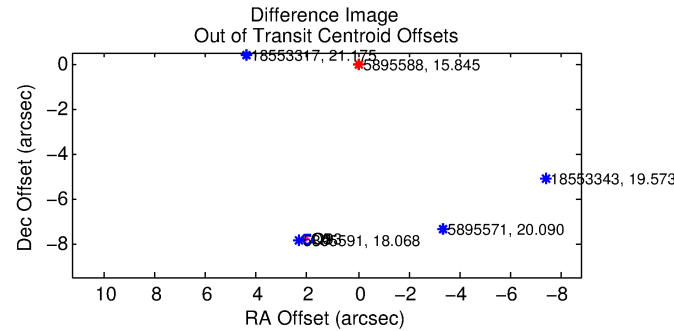
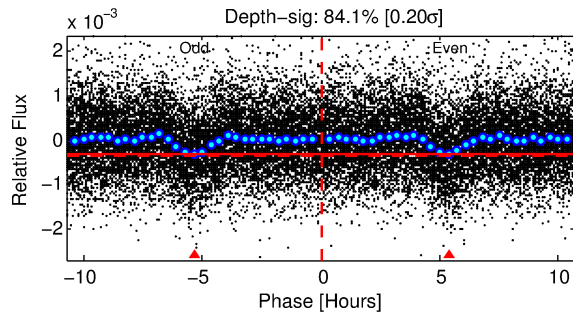
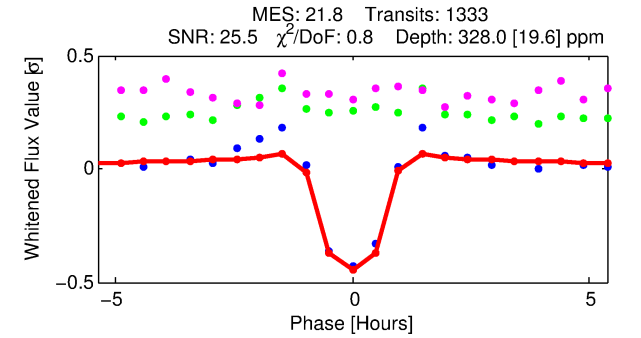
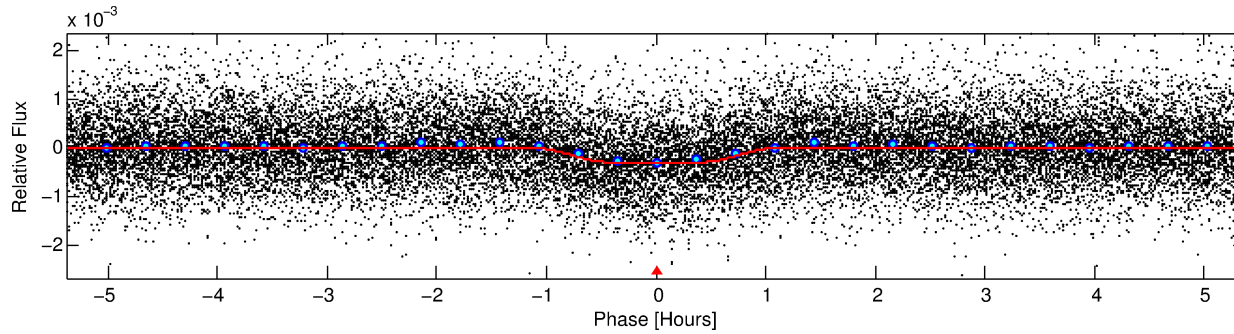
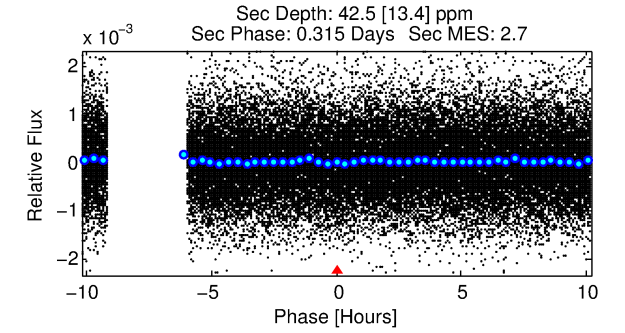
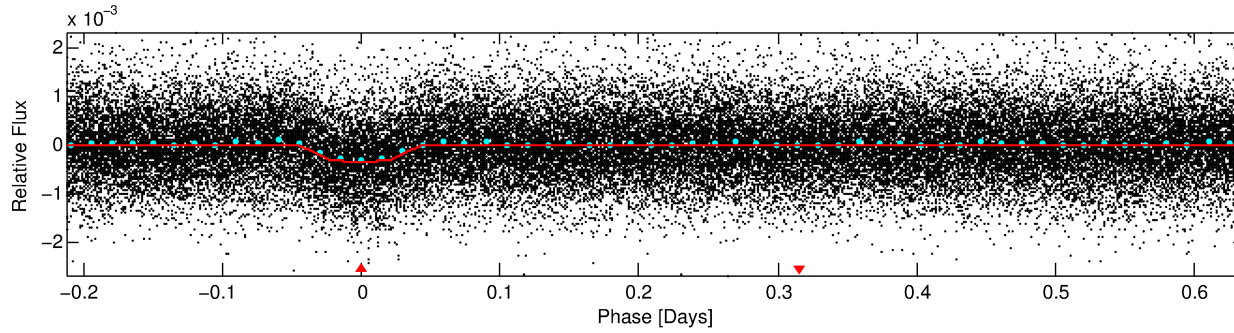
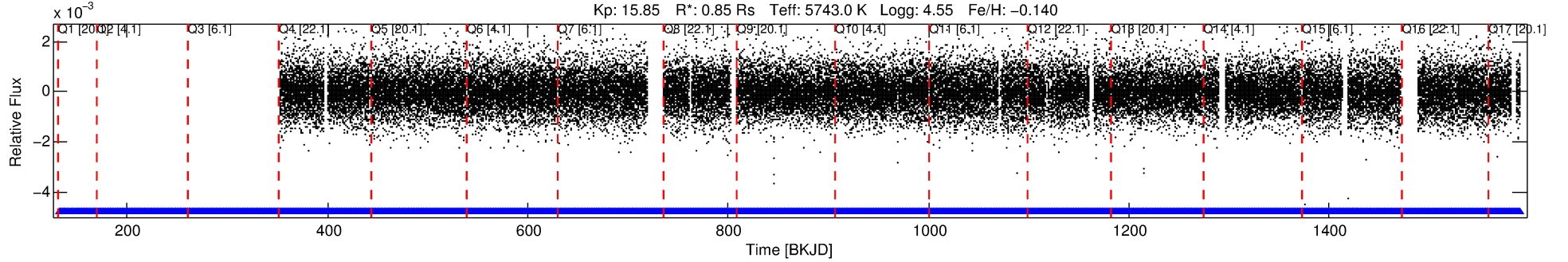
No Significant Match Found

# DV One-Page Summary

KIC: 5895588 Candidate: 1 of 1 Period: 0.849 d

KOI: K03981 Corr: No Ephemeris Match

Kp: 15.85 R\*: 0.85 Rs Teff: 5743.0 K Logg: 4.55 Fe/H: -0.140



## DV Fit Results:

Period = 0.84928 [0.00000] d  
Epoch = 132.1738 [0.0009] BKJD  
Rp/R\* = 0.0197 [0.0047]  
a/R\* = 1.99 [1.67]  
b = 0.90 [0.25]  
Seff = 2384.23 [892.58]  
Teq = 1782 [167] K  
Rp = 1.83 [0.68] Re  
a = 0.0172 [0.0041] AU  
Ag = 2.07 [1.39] [0.77σ]  
Teff = 3303 [487] K [2.96σ]

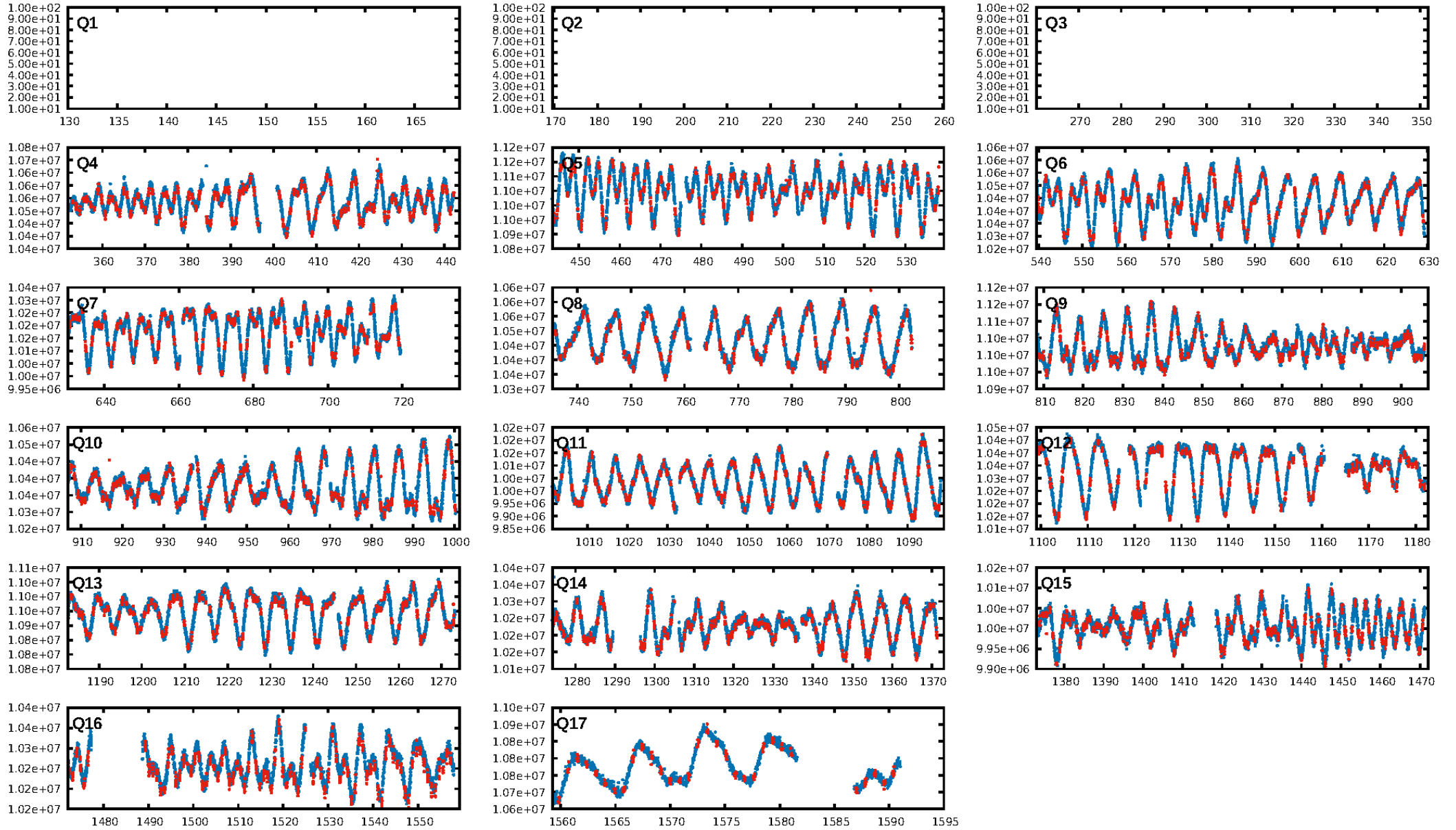
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 1.31e-99  
RollingBand-fgt: 1.00 [1302/1302]  
GhostDiagnostic-chr: -0.3087  
Centroid-sig: N/A  
Centroid-so: 38.119 arcsec [62.49σ]  
OotOffset-rm: 8.061 arcsec [120.30σ]  
KicOffset-rm: 8.152 arcsec [118.33σ]  
OotOffset-st: 0/0/0/3 [3]  
KicOffset-st: 0/0/0/3 [3]  
DiffImageQuality-fgm: 1.00 [3/3]  
DiffImageOverlap-fno: 1.00 [14/14]

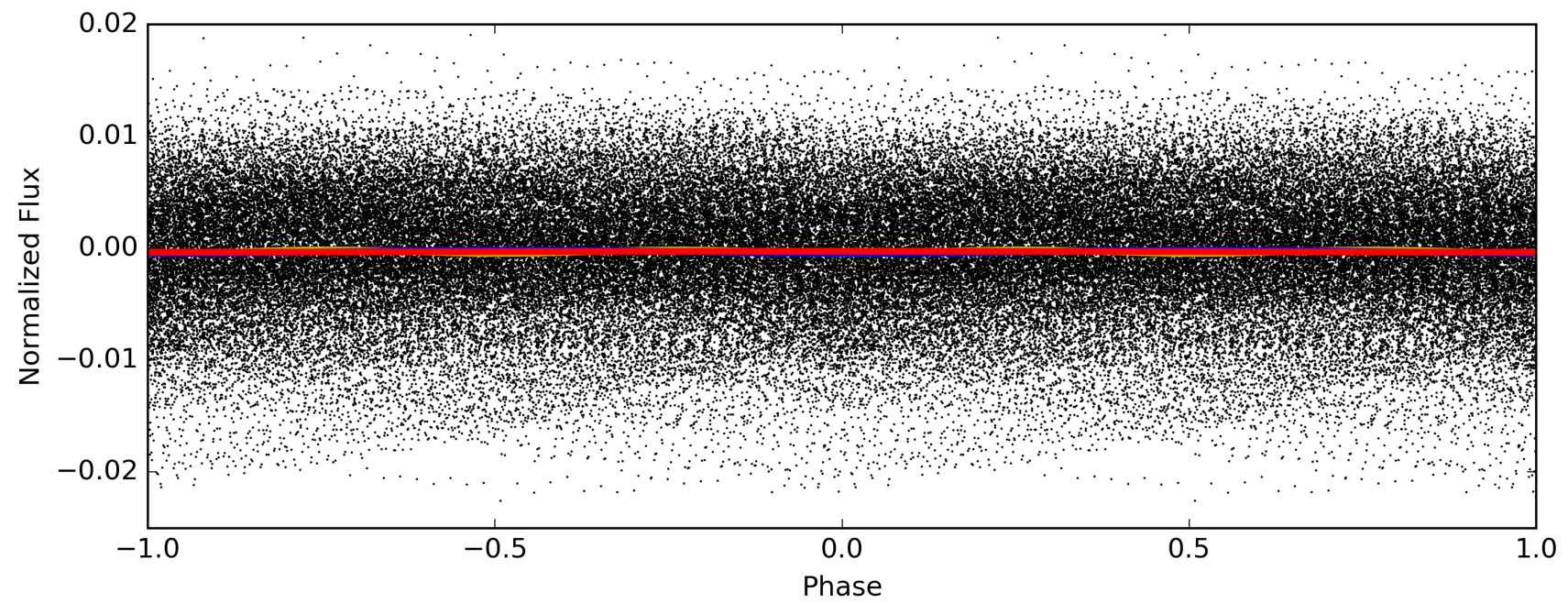
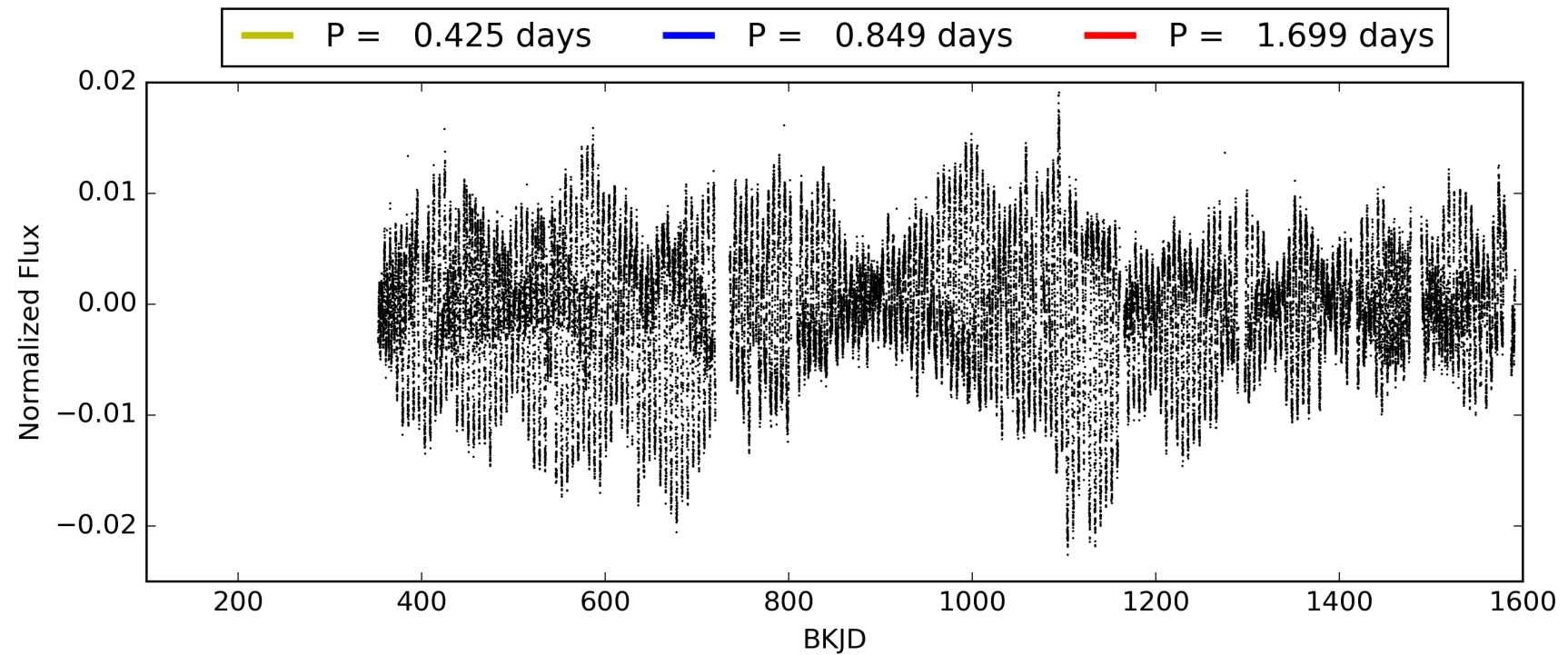
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 30-Jan-2016 22:14:46 Z

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

# TCE 005895588-01, PDC Light Curves

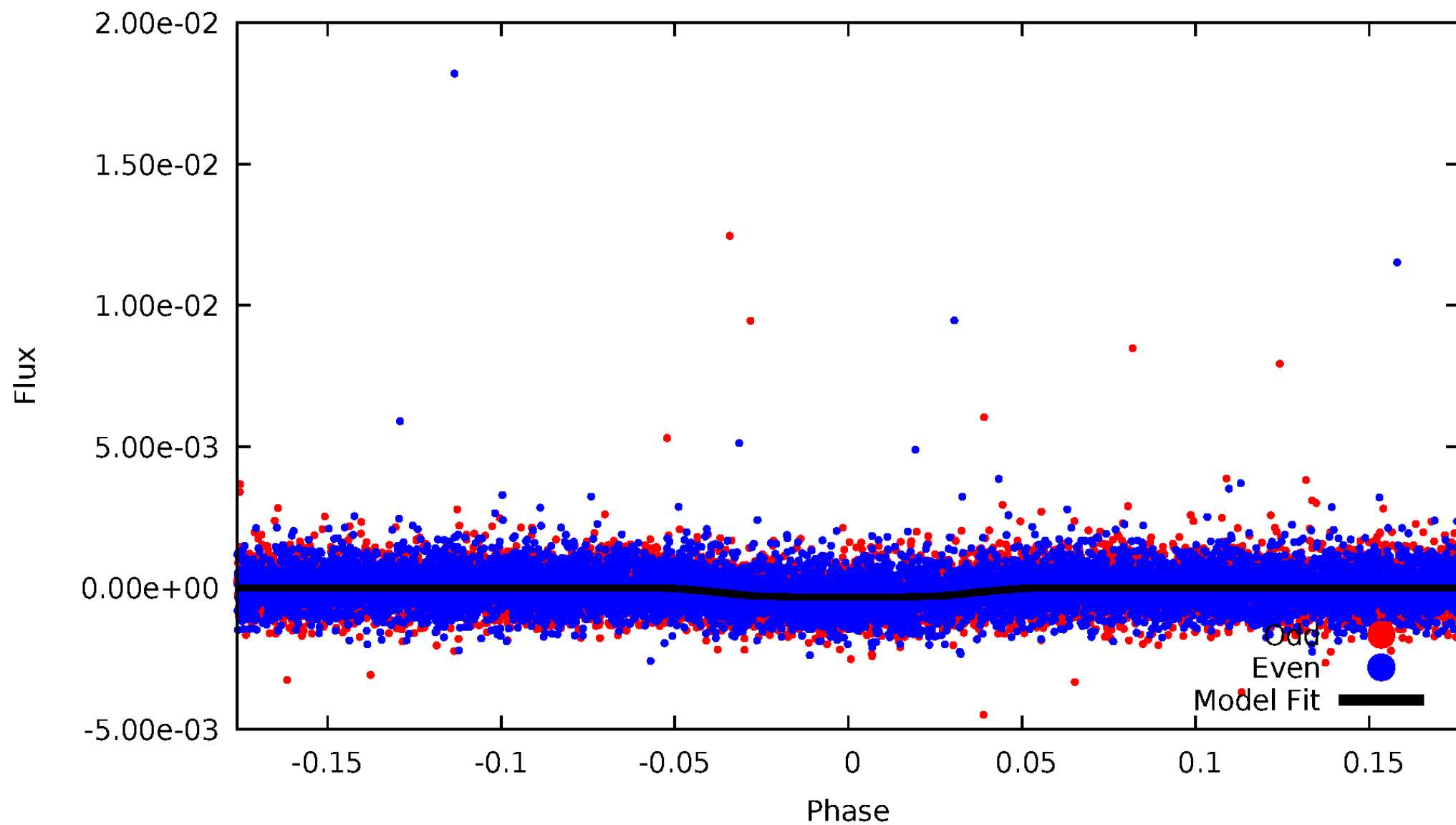


TCE 005895588-01



# DV Odd/Even

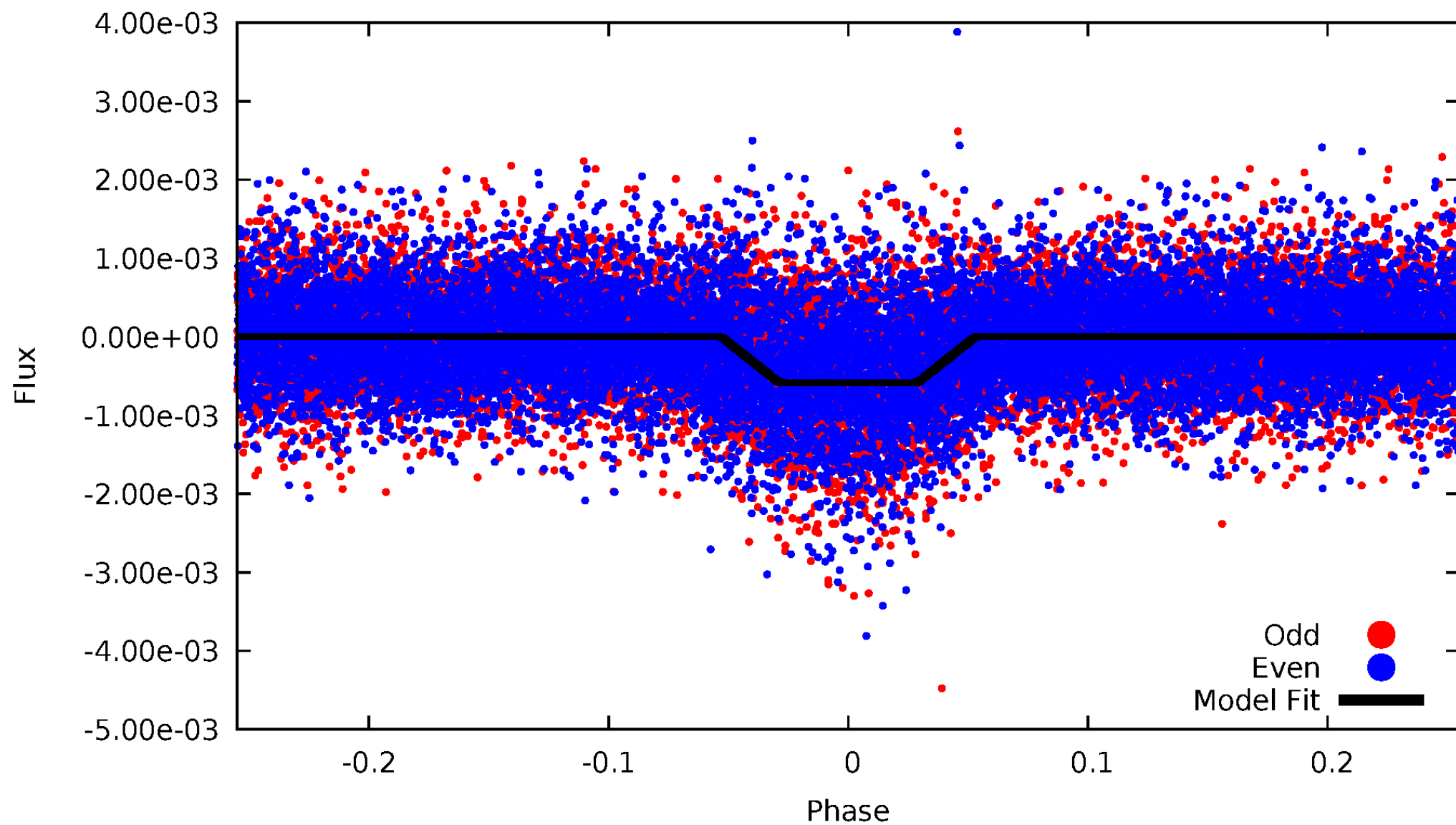
TCE 005895588-01





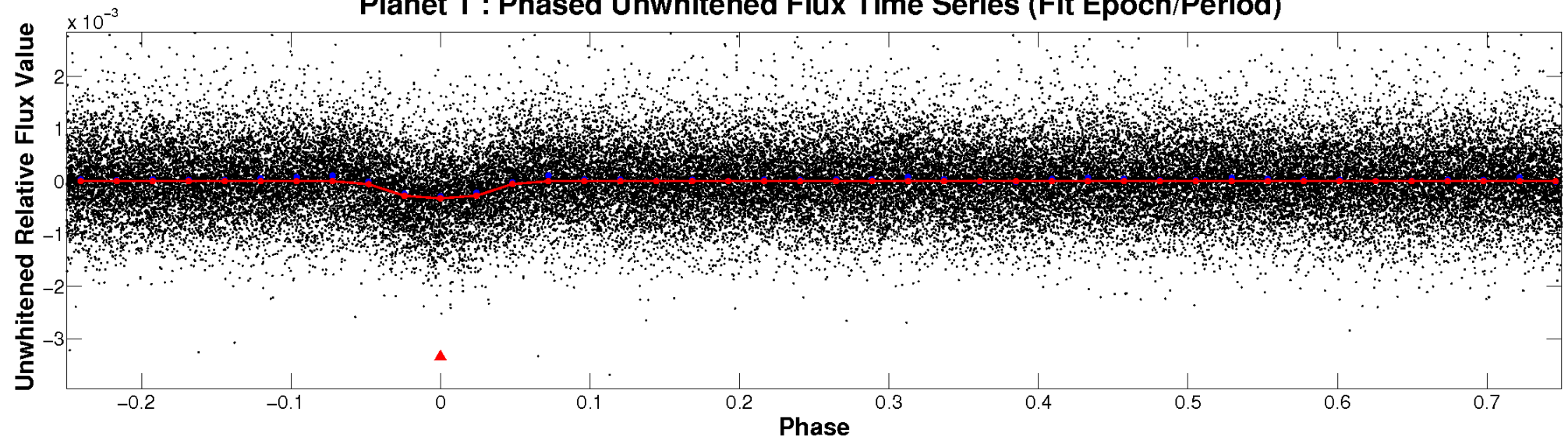
# ALT Odd/Even

TCE 005895588-01

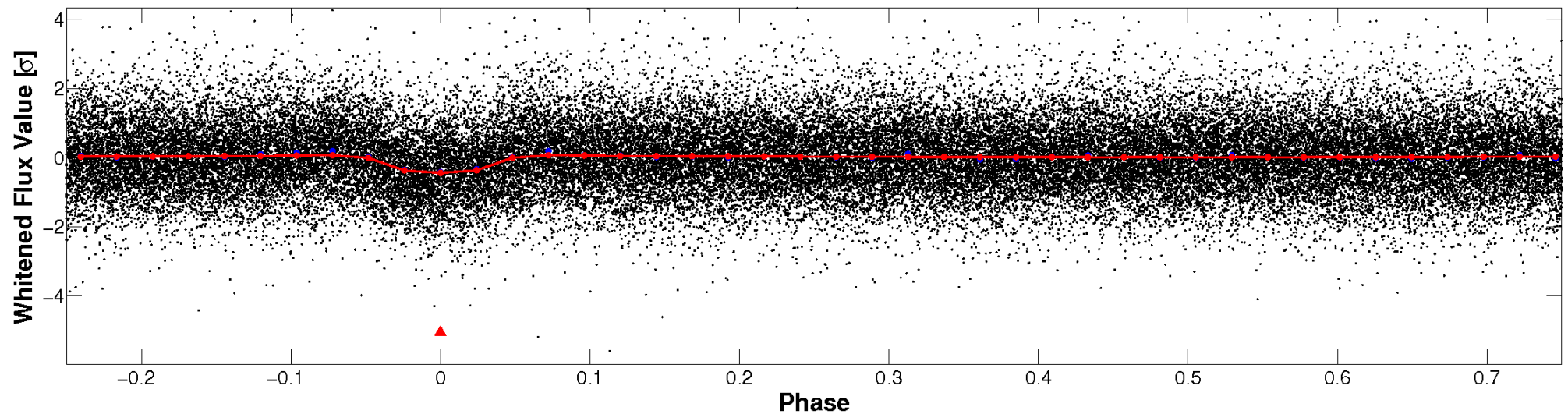


# Non-Whitened Vs. Whitened Light Curve

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

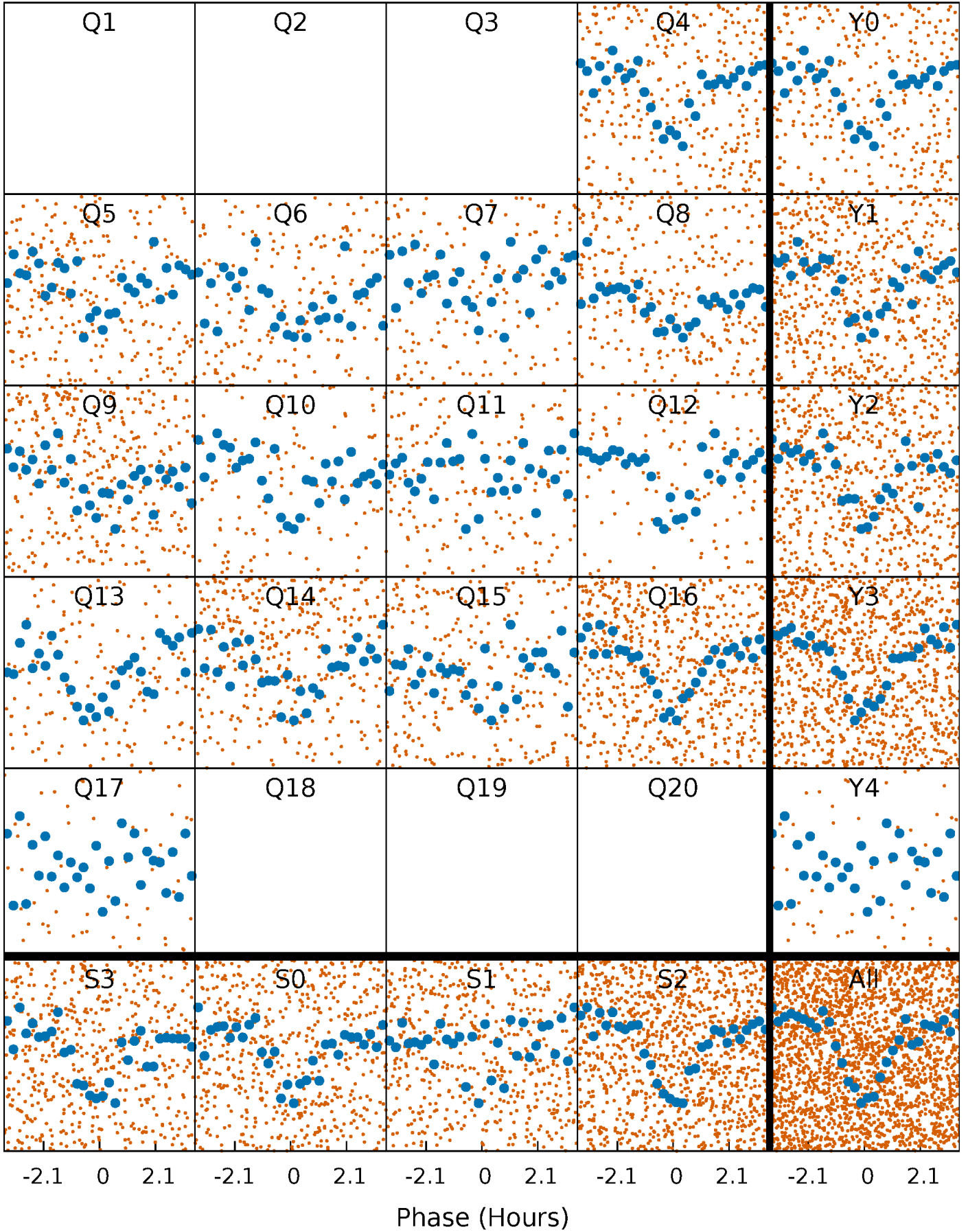


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

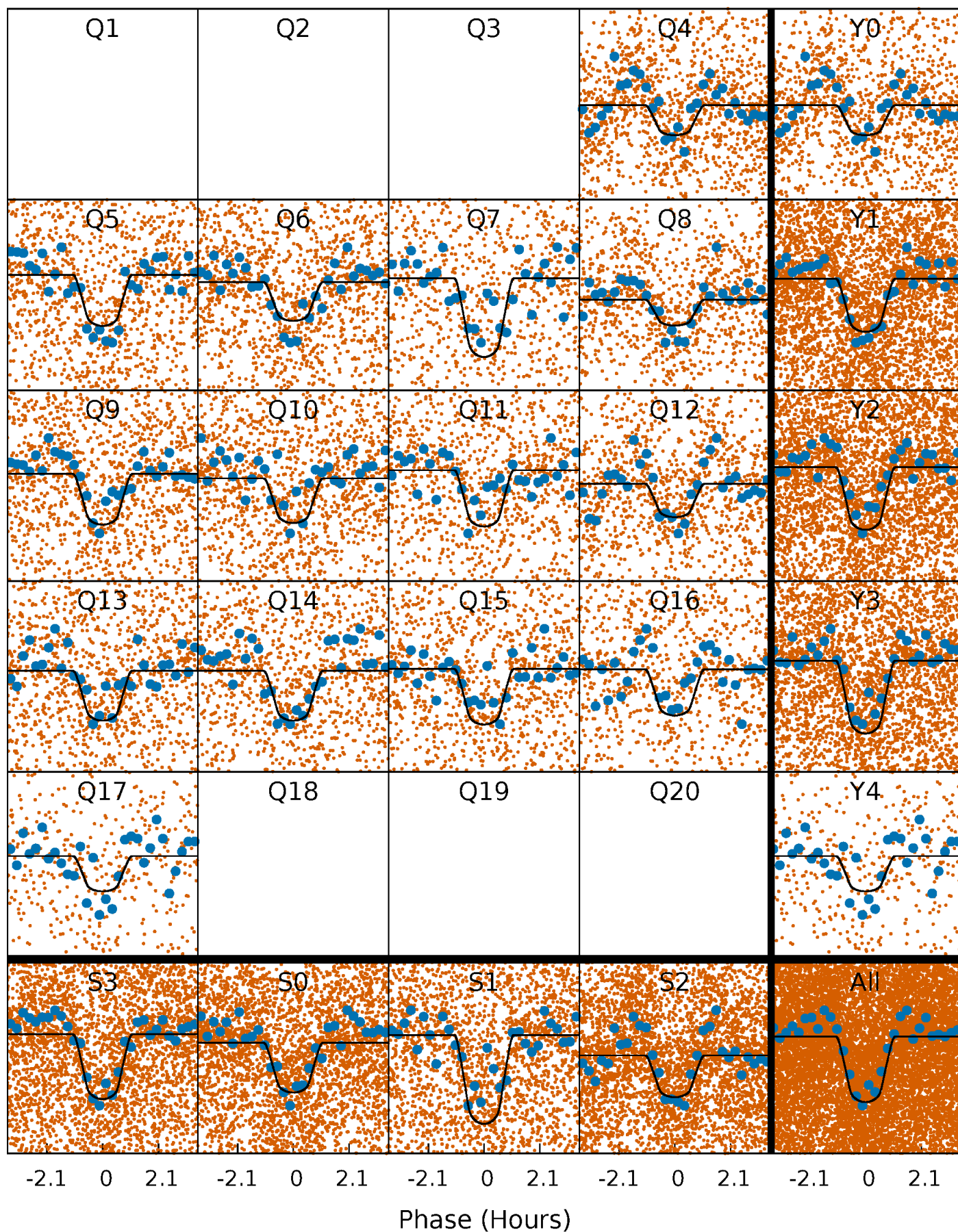
TCE 005895588-01   P= 0.849280 Days    $T_0=132.173811$  (BKJD)





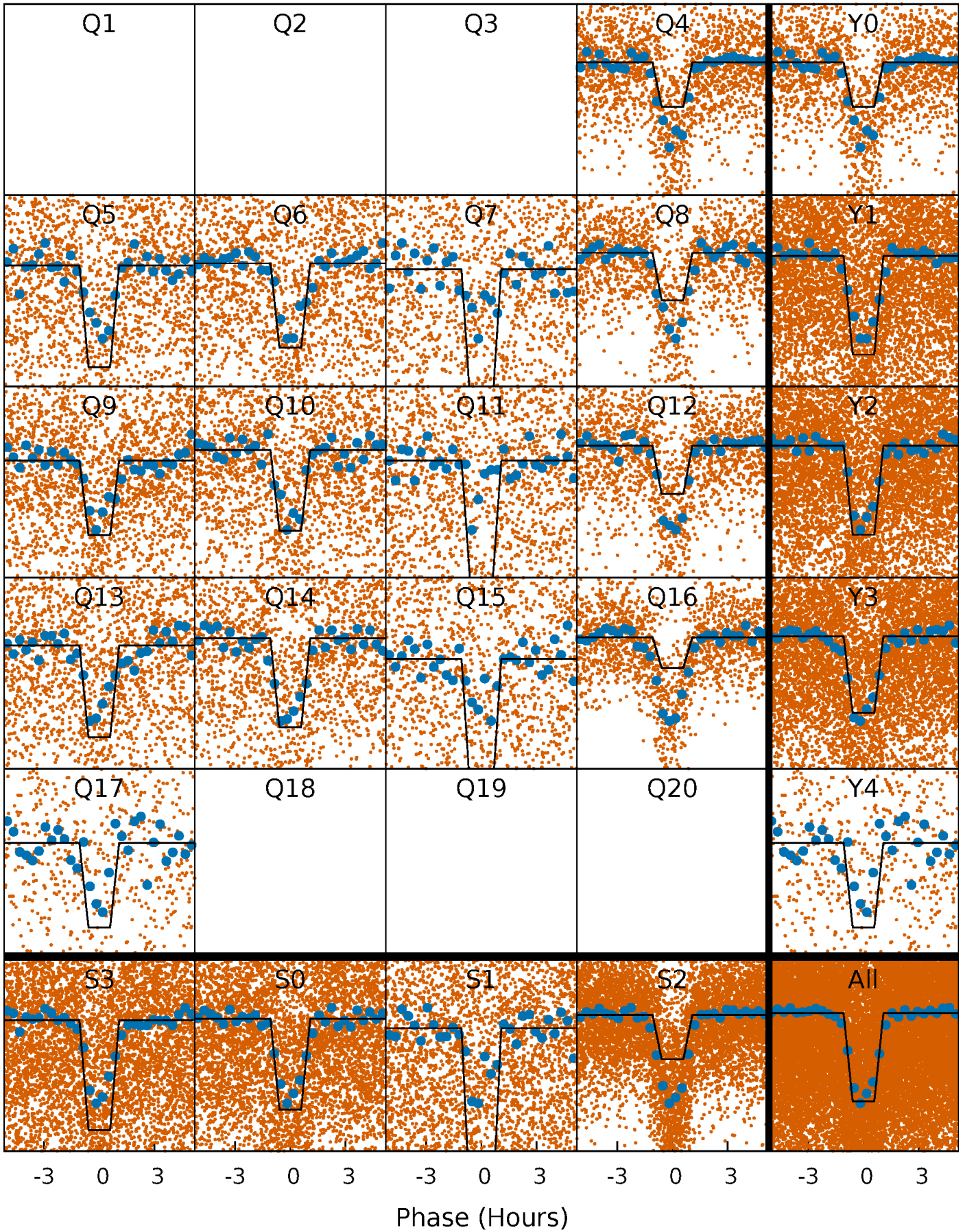
# DV Quarter-Phased Transit Curves

TCE 005895588-01 P= 0.849280 Days  $T_0=132.173811$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

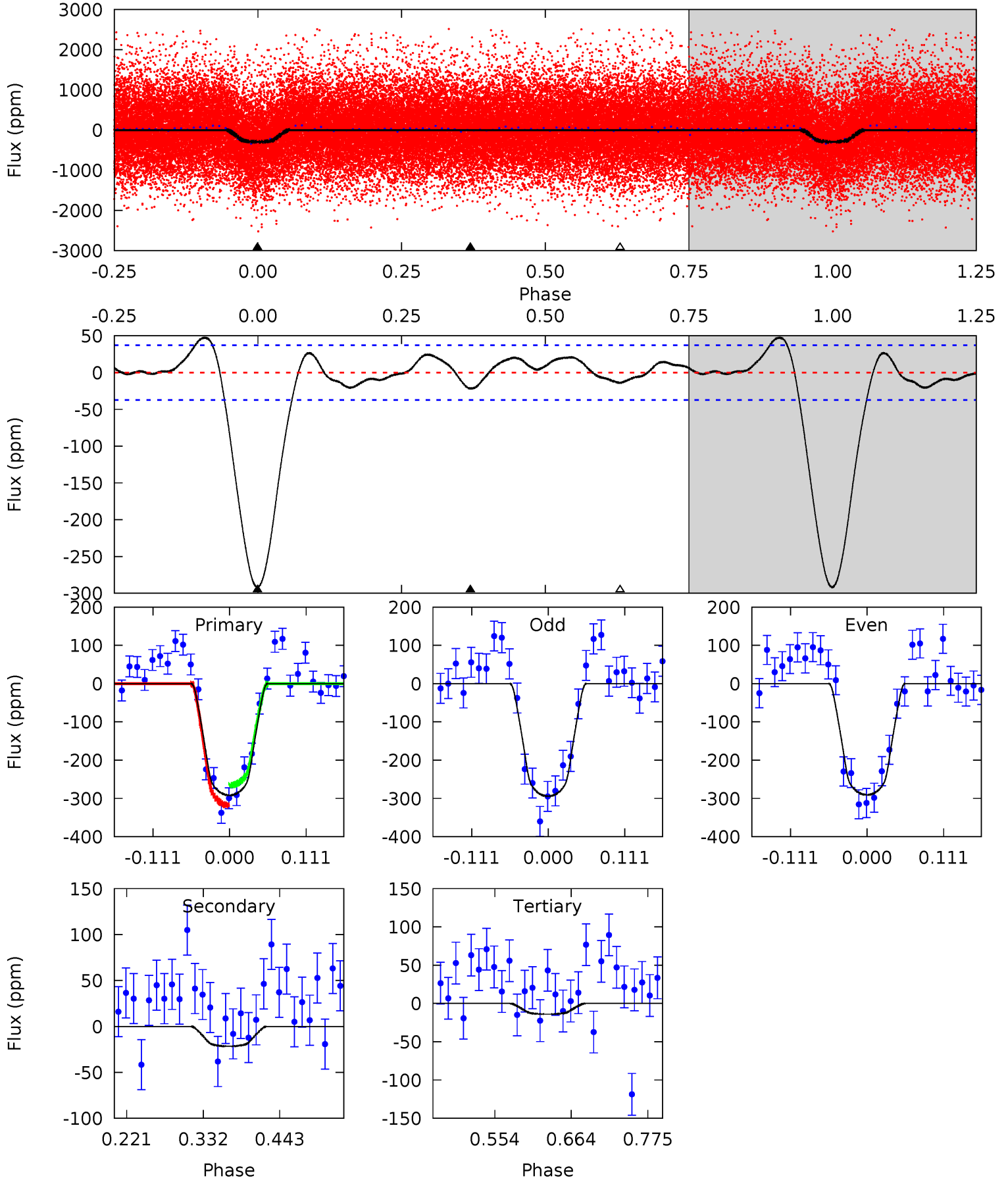
TCE 005895588-01 P= 0.849282 Days  $T_0=132.170797$  (BKJD)



# DV Model-Shift Uniqueness Test

005895588-01, P = 0.849280 Days, E = 132.173811 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
35.6	2.64	1.72	0	4.54	1.60	1.37	33.9	35.6	0.93	2.64	0.22	0.98	0.14	3.22

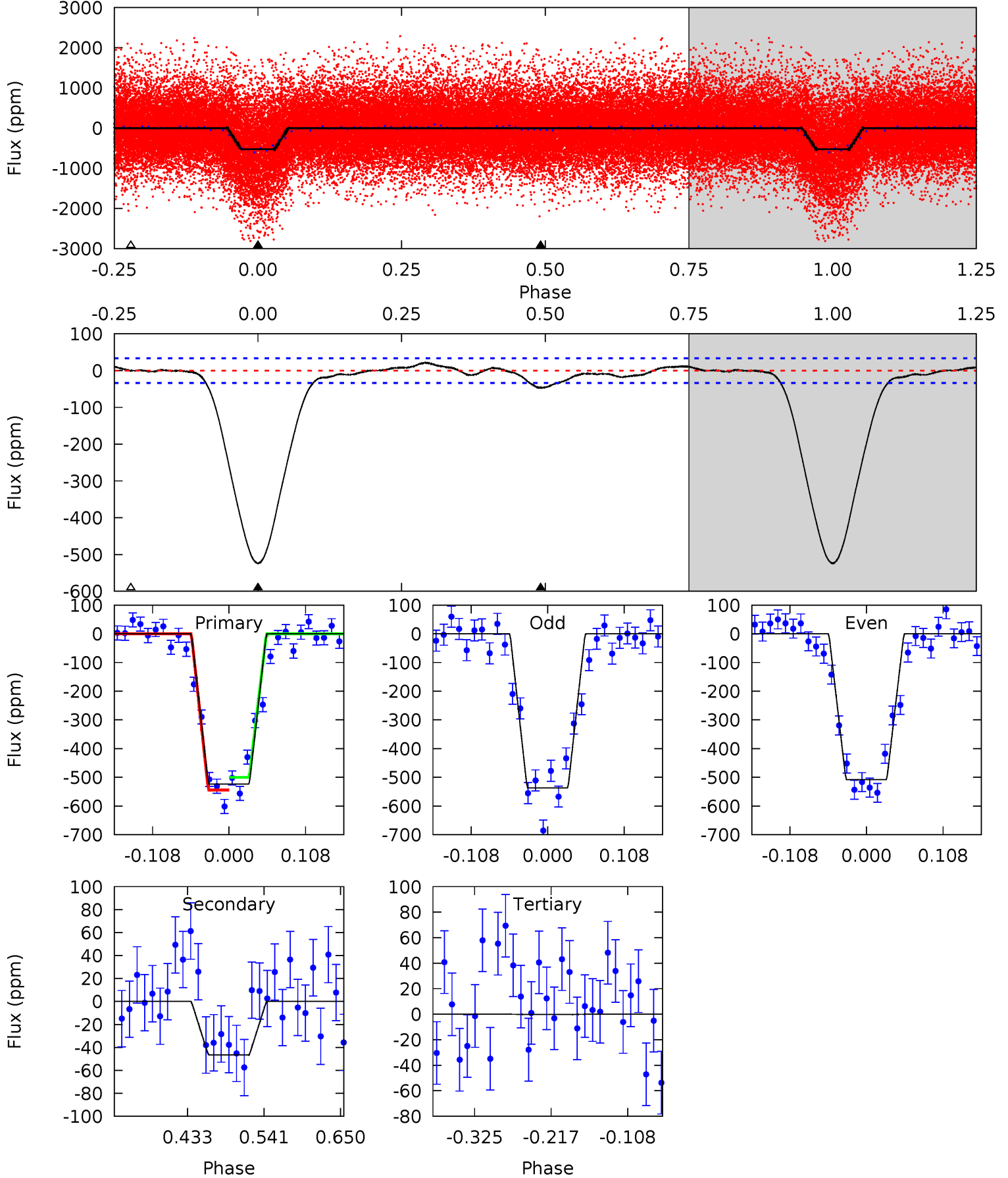




# Alt Model-Shift Uniqueness Test

005895588-01, P = 0.849282 Days, E = 132.170797 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
70.8	6.30	0.03	0	4.55	1.61	1.33	70.7	70.8	6.27	6.30	1.97	1.09	0.04	2.99



### Stellar Parameters For KIC 005895588

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$p_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$5743^{+172}_{-190}$	$4.553^{+0.036}_{-0.192}$	$-0.140^{+0.300}_{-0.300}$	$0.853^{+0.242}_{-0.081}$	$0.949^{+0.109}_{-0.121}$	$2.155^{+0.415}_{-1.092}$
	+3%/-3%	+1%/-4%	+214%/-214%	+28%/-9%	+11%/-13%	+19%/-51%
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 005895588-01 / KOI 3981.01

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-22 \pm 8$	$1.89^{+0.58}_{-0.46}$	$2550^{+184}_{-123}$	$3135^{+411}_{-518}$	$0.908^{+0.874}_{-0.453}$
Alt.	$-47 \pm 7$	$2.34^{+0.58}_{-0.49}$	$2550^{+170}_{-114}$	$3379^{+308}_{-267}$	$1.356^{+0.814}_{-0.519}$

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



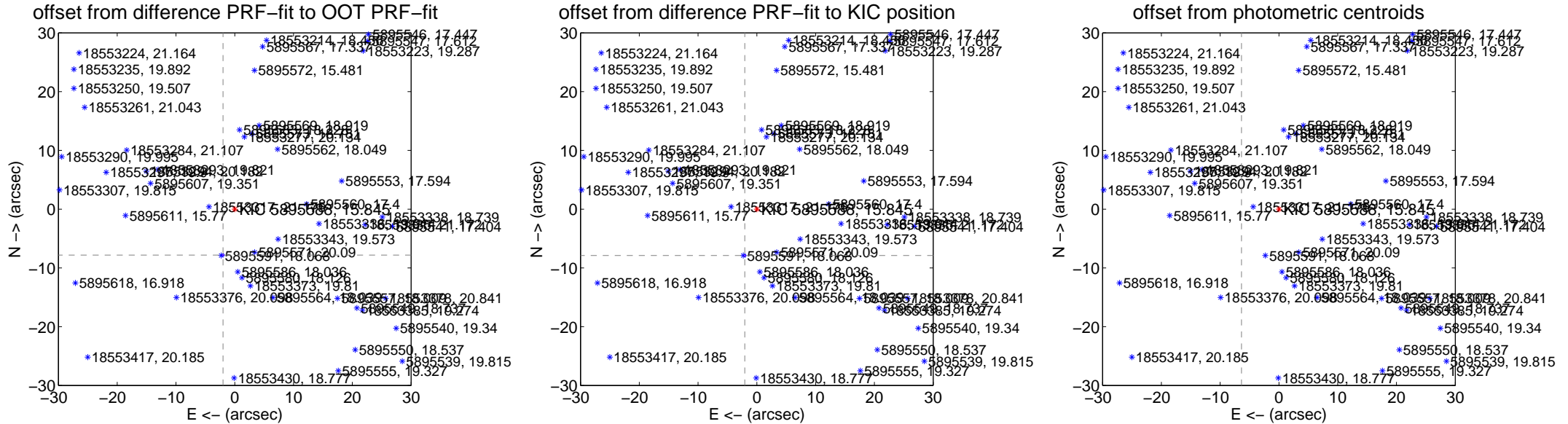
## DV Centroid Data

Supplemental centroid analysis for 005895588-01. Kepler magnitude: 15.85. Transit SNR 25.50

There are 3 quarters with good PRF difference image offsets

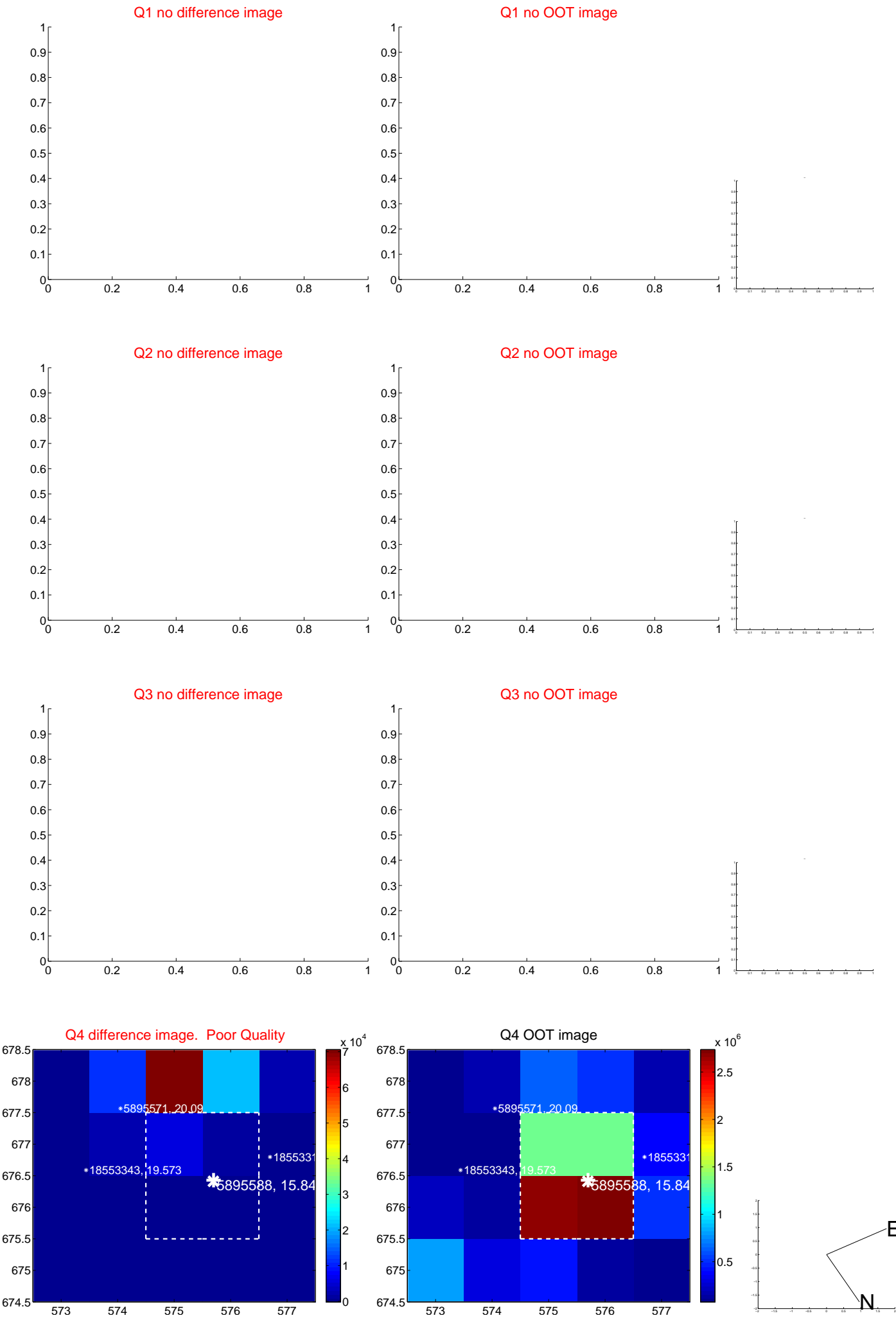
The direct PRF centroid is offset from the target star catalog position by about 0.09 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	8.061 $\pm$ 0.067	120.30	1.993 $\pm$ 0.067	-7.811 $\pm$ 0.067
PRF-fit source offset from KIC position	8.152 $\pm$ 0.069	118.33	2.047 $\pm$ 0.068	-7.890 $\pm$ 0.069
photometric centroid source offset	38.12 $\pm$ 0.61	62.49	6.36 $\pm$ 0.55	-37.58 $\pm$ 0.61

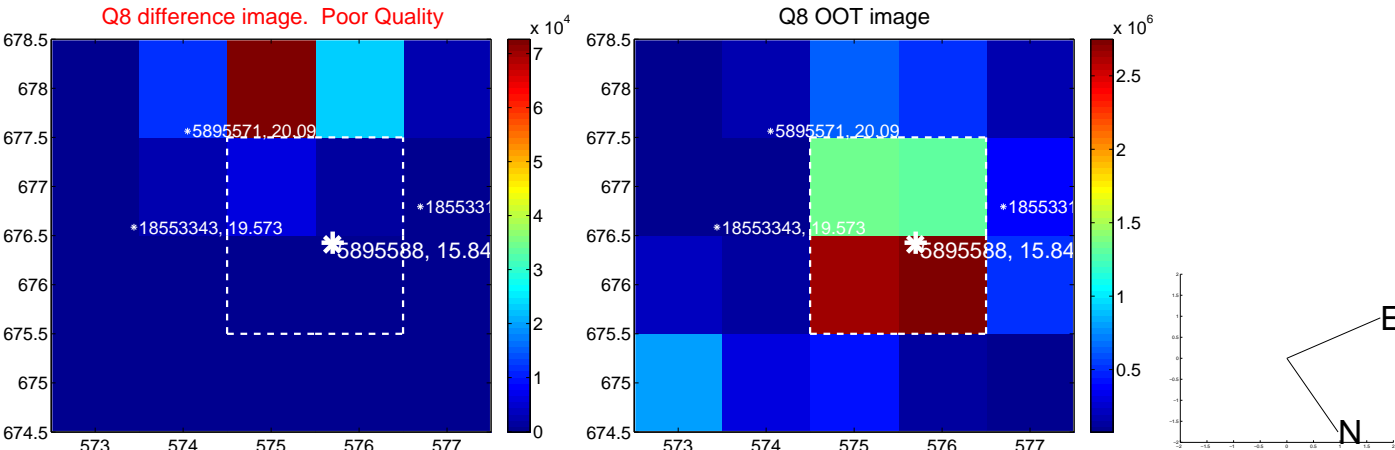
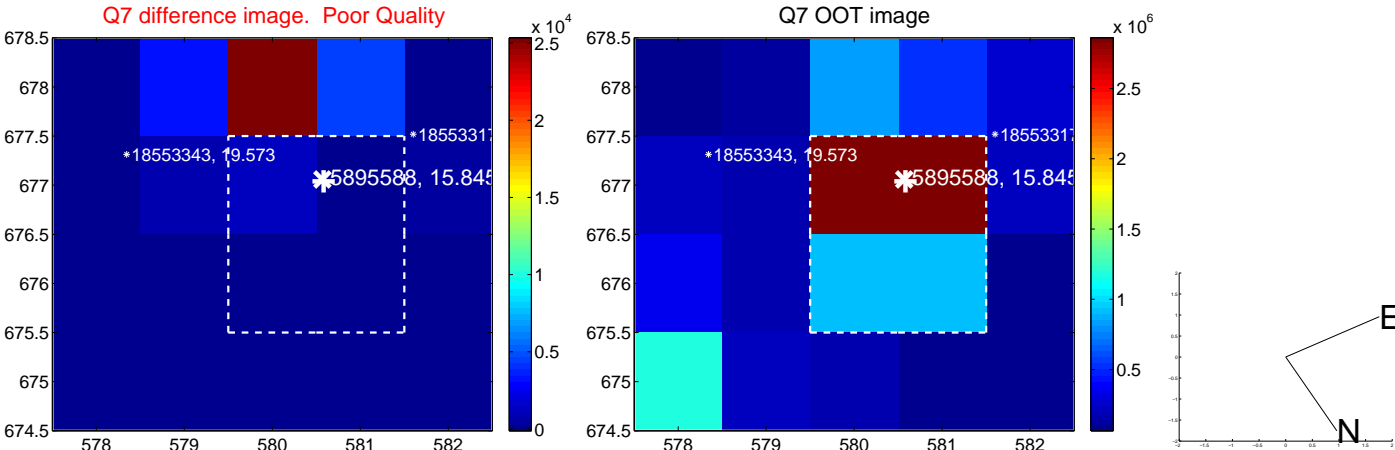
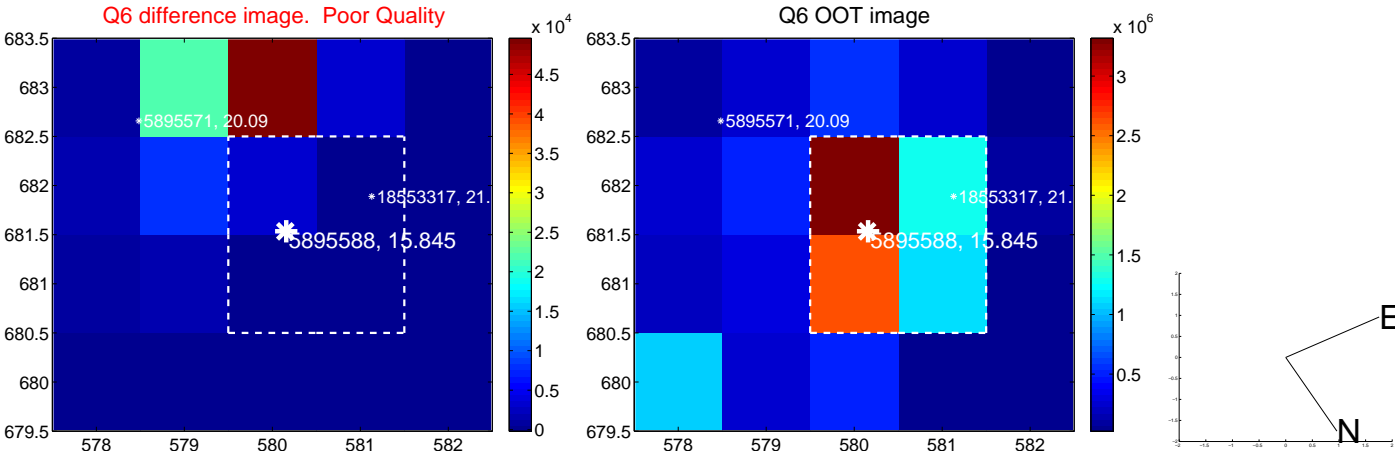
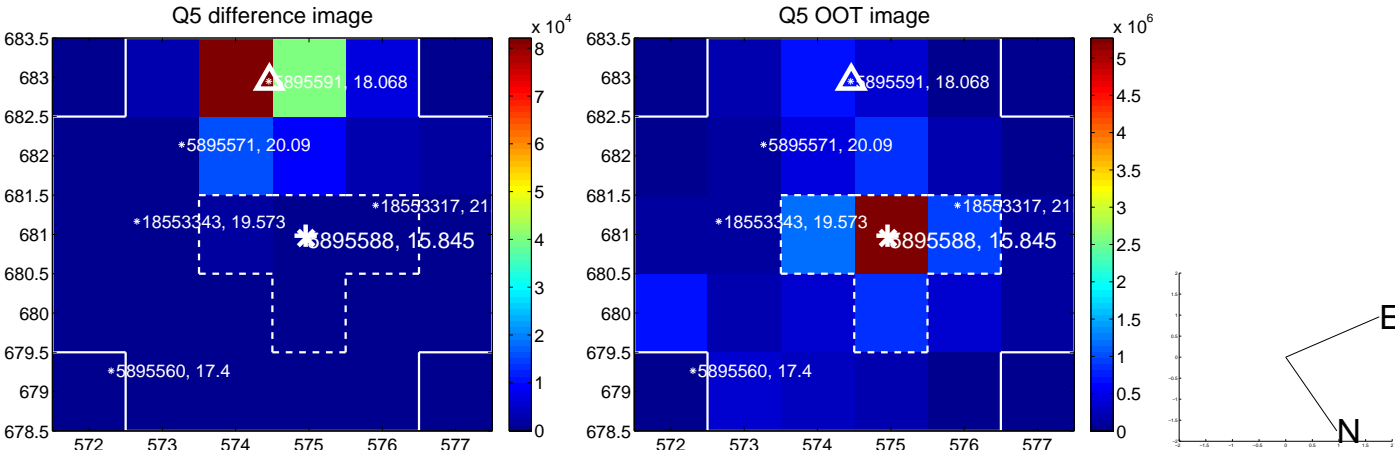


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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

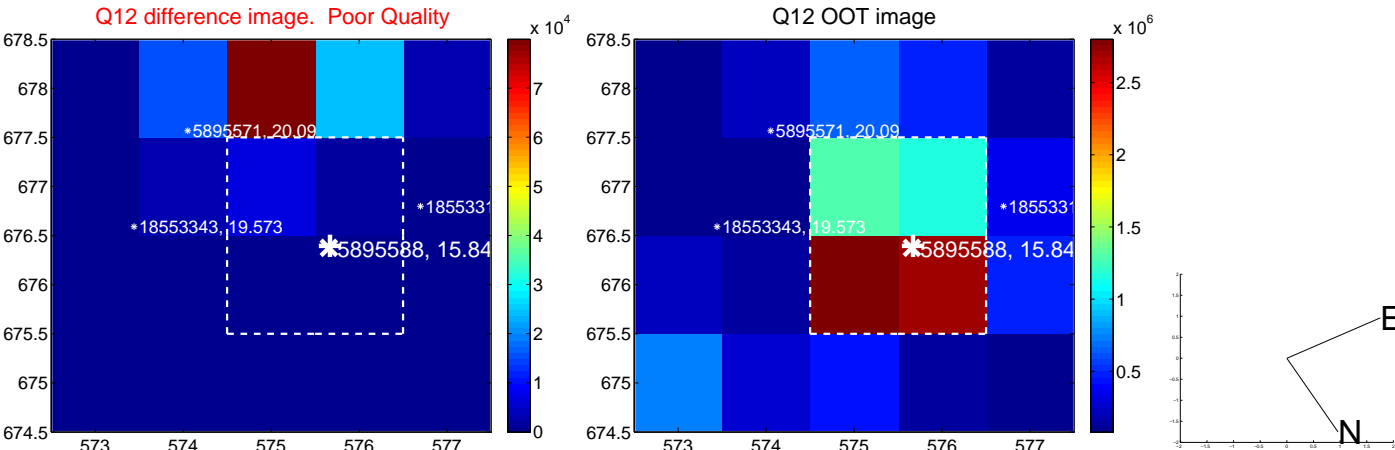
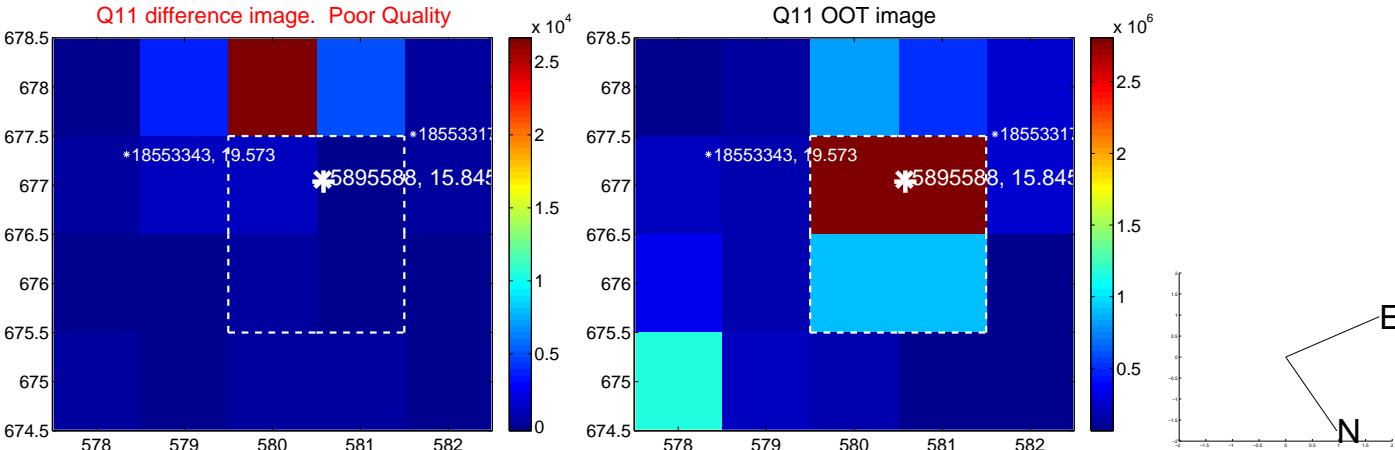
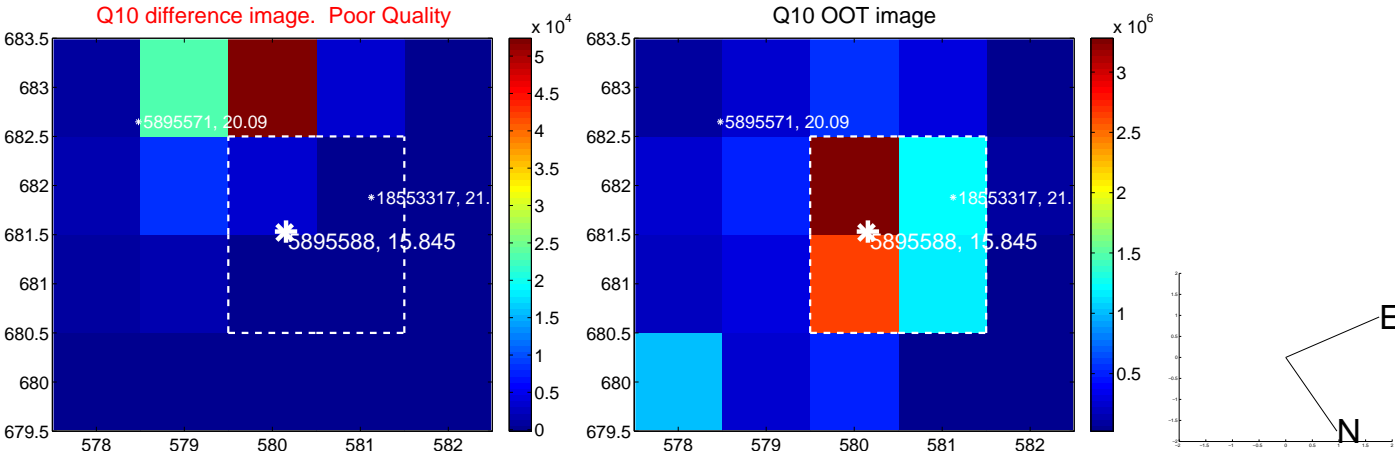
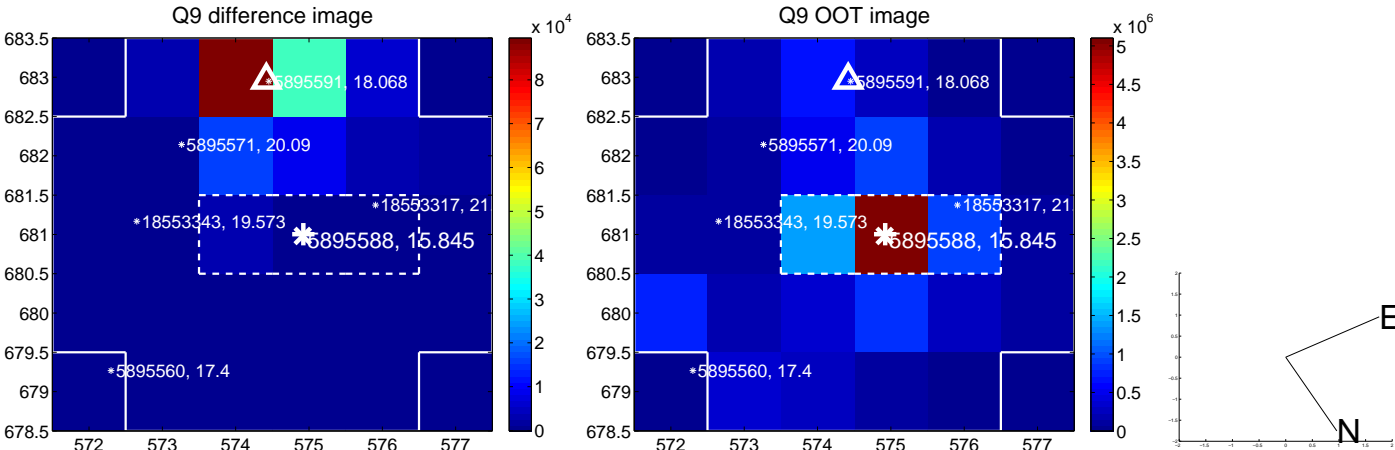
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



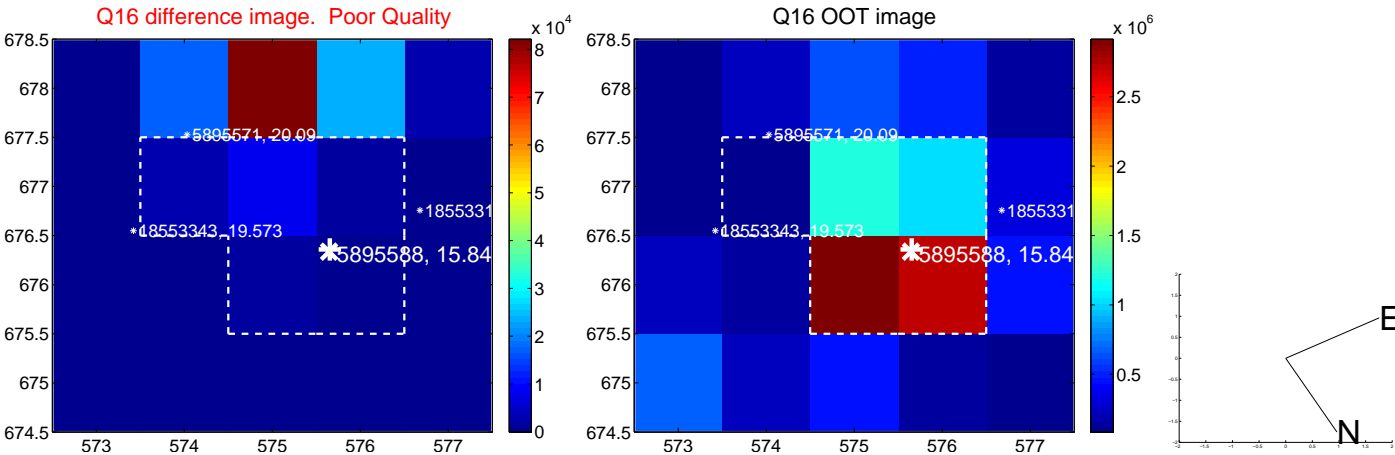
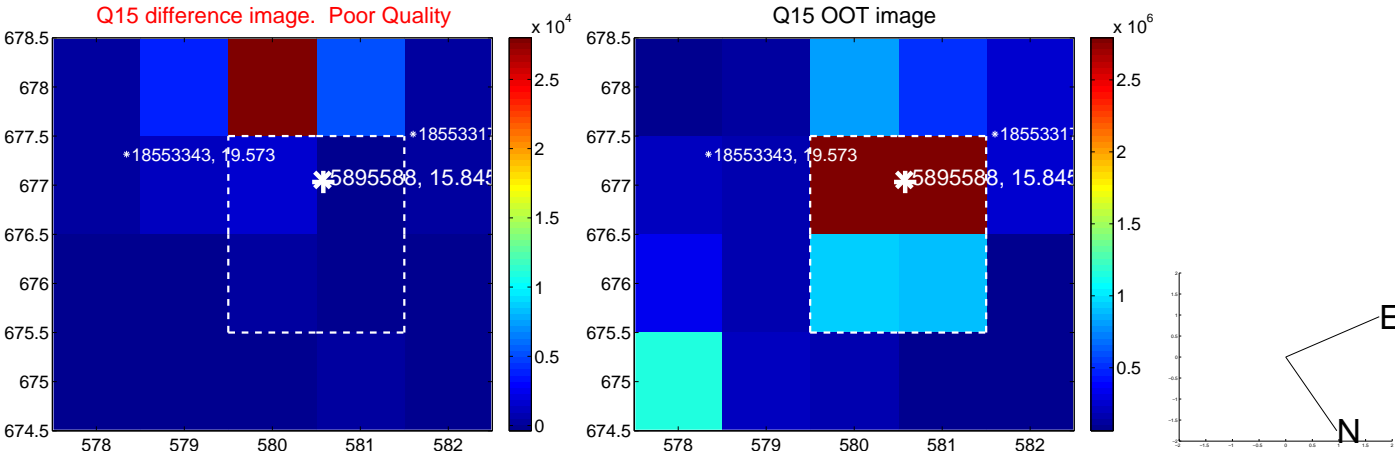
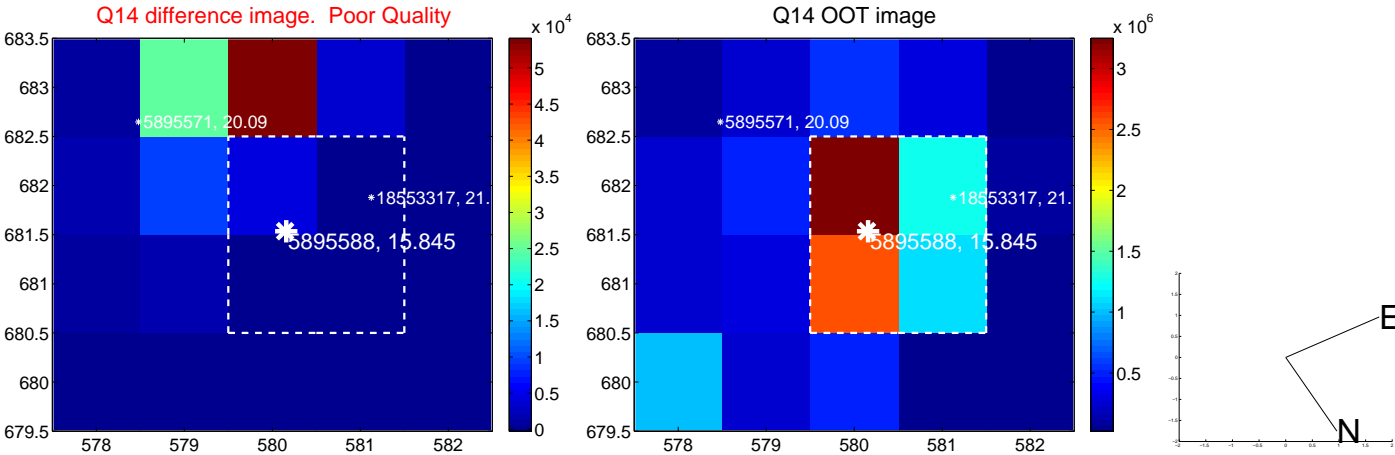
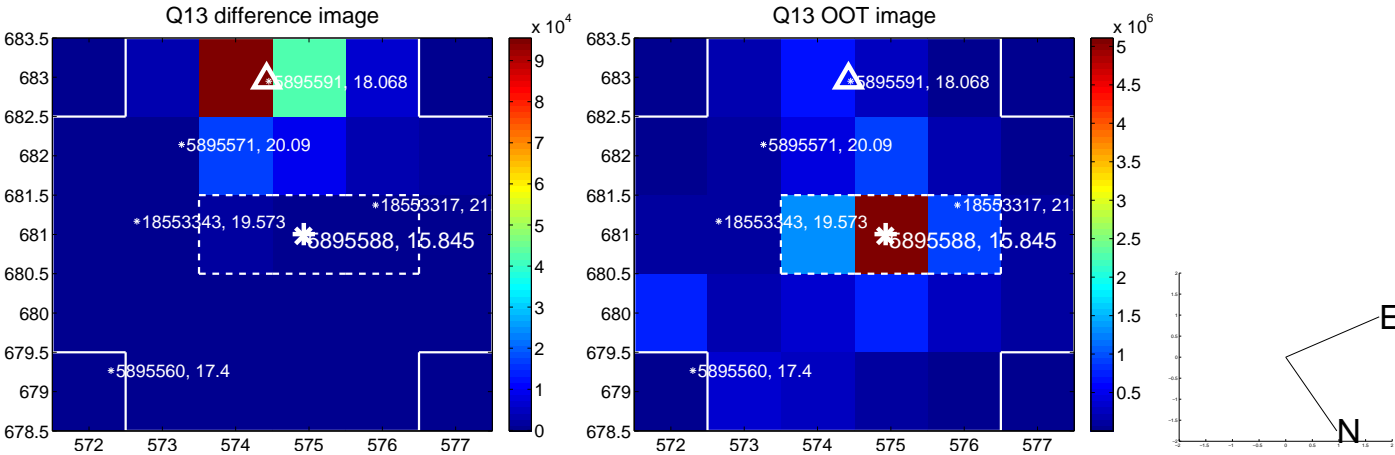
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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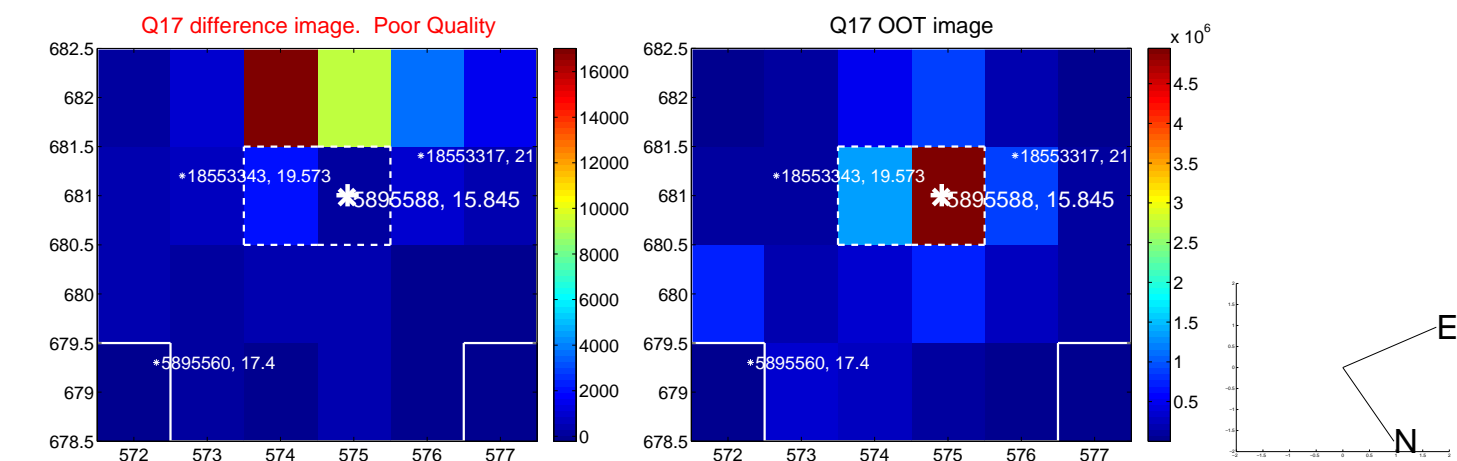


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

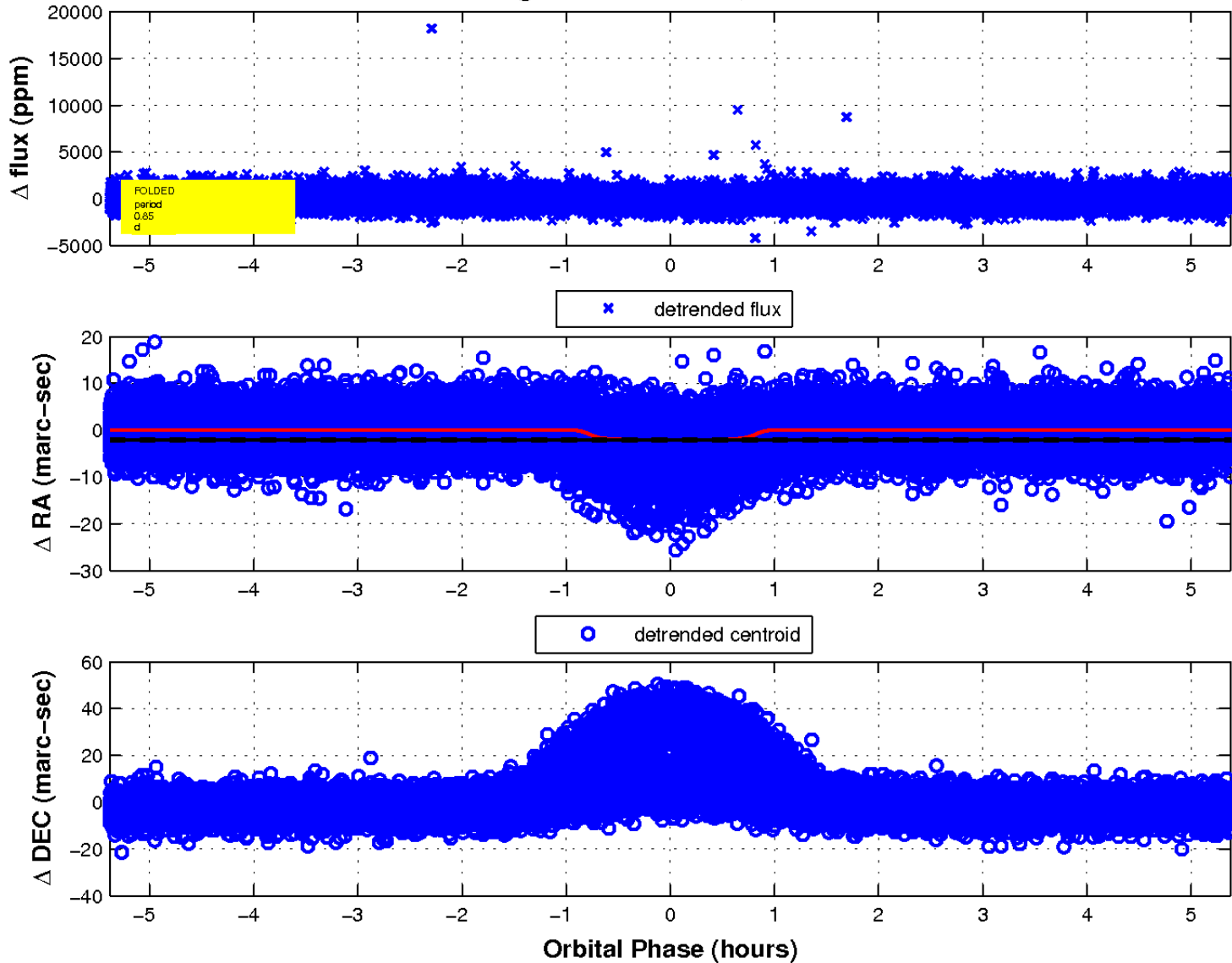




white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



### fluxWeightedCentroids, Planet 1 of 1



UKIRT Image

Declination

