

# KIC 008411255

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008411255-01	OBS	No	536.522995	211.306572	342.2	7.931	7.2	6.0	1.09	6129	2.24	0.90

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008411255-01	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_MARSHALL_SKYE—LPP_DV—LPP_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS

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

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

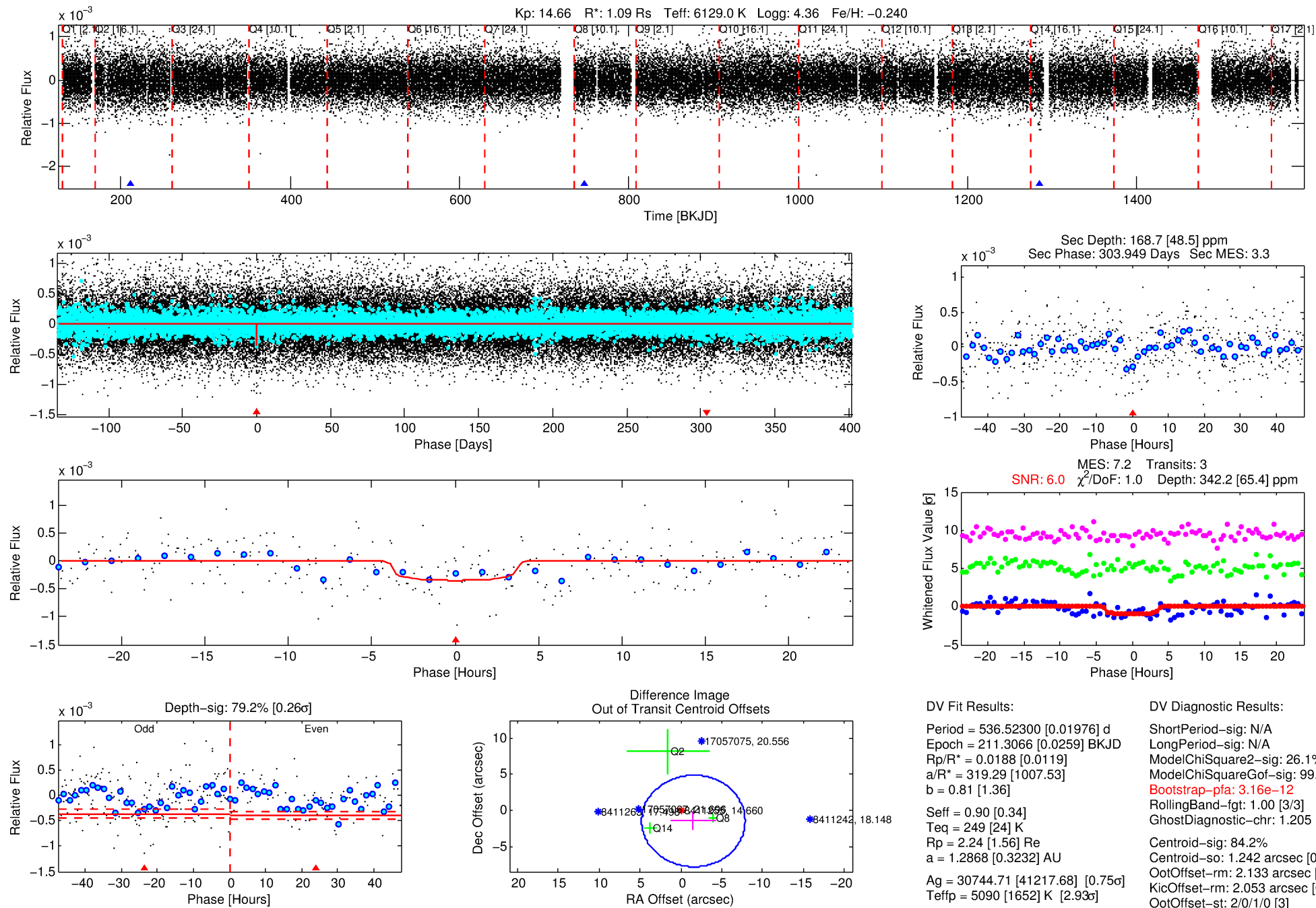
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 008411255-01

No Significant Match Found

# DV One-Page Summary

KIC: 8411255 Candidate: 1 of 1 Period: 536.523 d



## DV Fit Results:

Period = 536.52300 [0.01976] d  
Epoch = 211.3066 [0.0259] BKJD  
Rp/R\* = 0.0188 [0.0119]  
a/R\* = 319.29 [1007.53]  
b = 0.81 [1.36]  
Seff = 0.90 [0.34]  
Teff = 249 [24] K  
Rp = 2.24 [1.56] Re  
a = 1.2868 [0.3232] AU  
Ag = 30744.71 [41217.68] [0.75 $\sigma$ ]  
Teffp = 5090 [1652] K [2.93 $\sigma$ ]

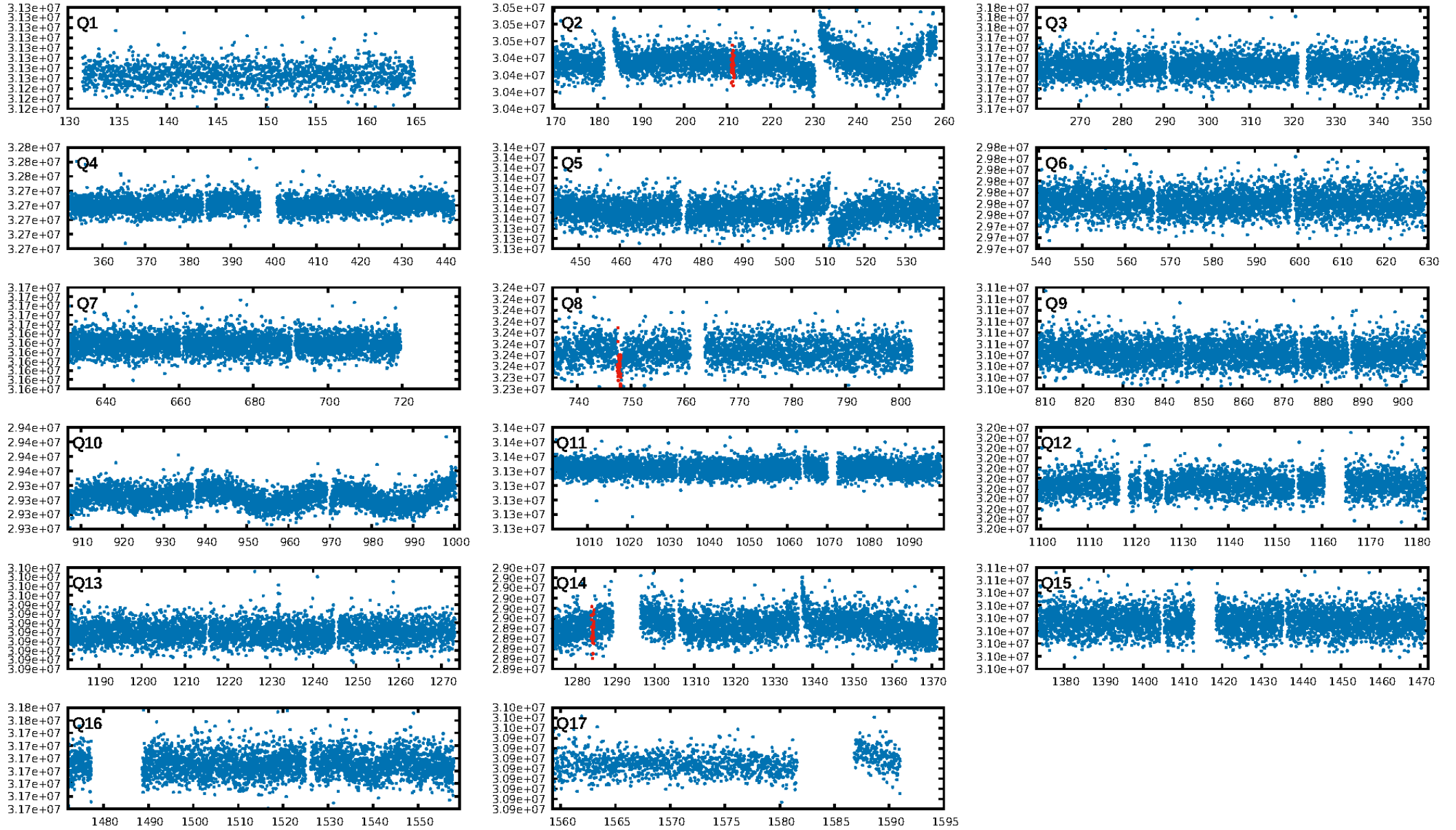
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 26.1%  
ModelChiSquareGof-sig: 99.5%  
**Bootstrap-pfa: 3.16e-12**  
RollingBand-fgt: 1.00 [3/3]  
GhostDiagnostic-chr: 1.205  
Centroid-sig: 84.2%  
Centroid-so: 1.242 arcsec [0.46 $\sigma$ ]  
OotOffset-rm: 2.133 arcsec [1.01 $\sigma$ ]  
KicOffset-rm: 2.053 arcsec [0.75 $\sigma$ ]  
OotOffset-st: 2/0/1/0 [3]  
KicOffset-st: 2/0/1/0 [3]  
DiffImageQuality-fgm: 0.33 [1/3]  
DiffImageOverlap-fno: 1.00 [3/3]

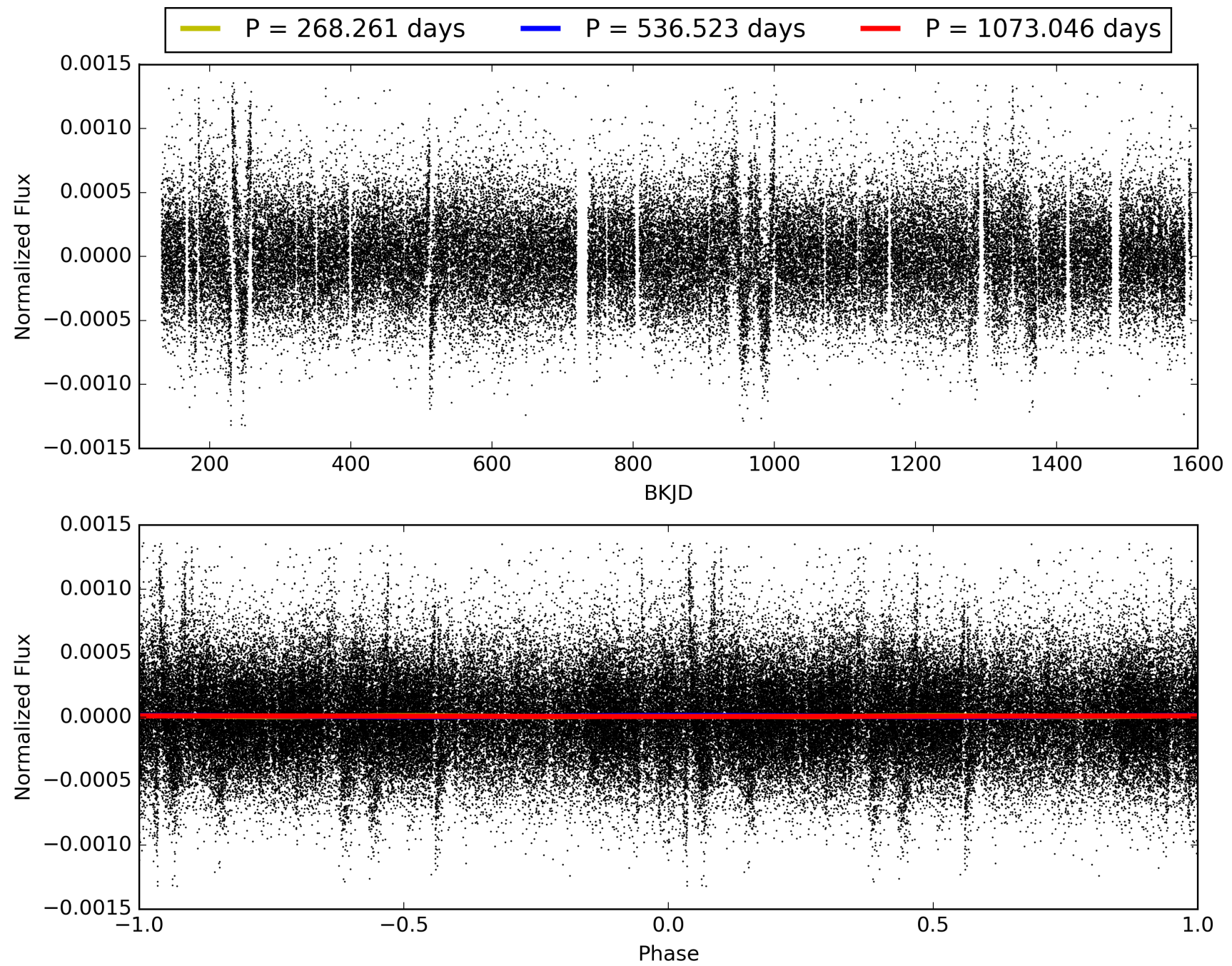
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 22:33:10 Z

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

# TCE 008411255-01, PDC Light Curves

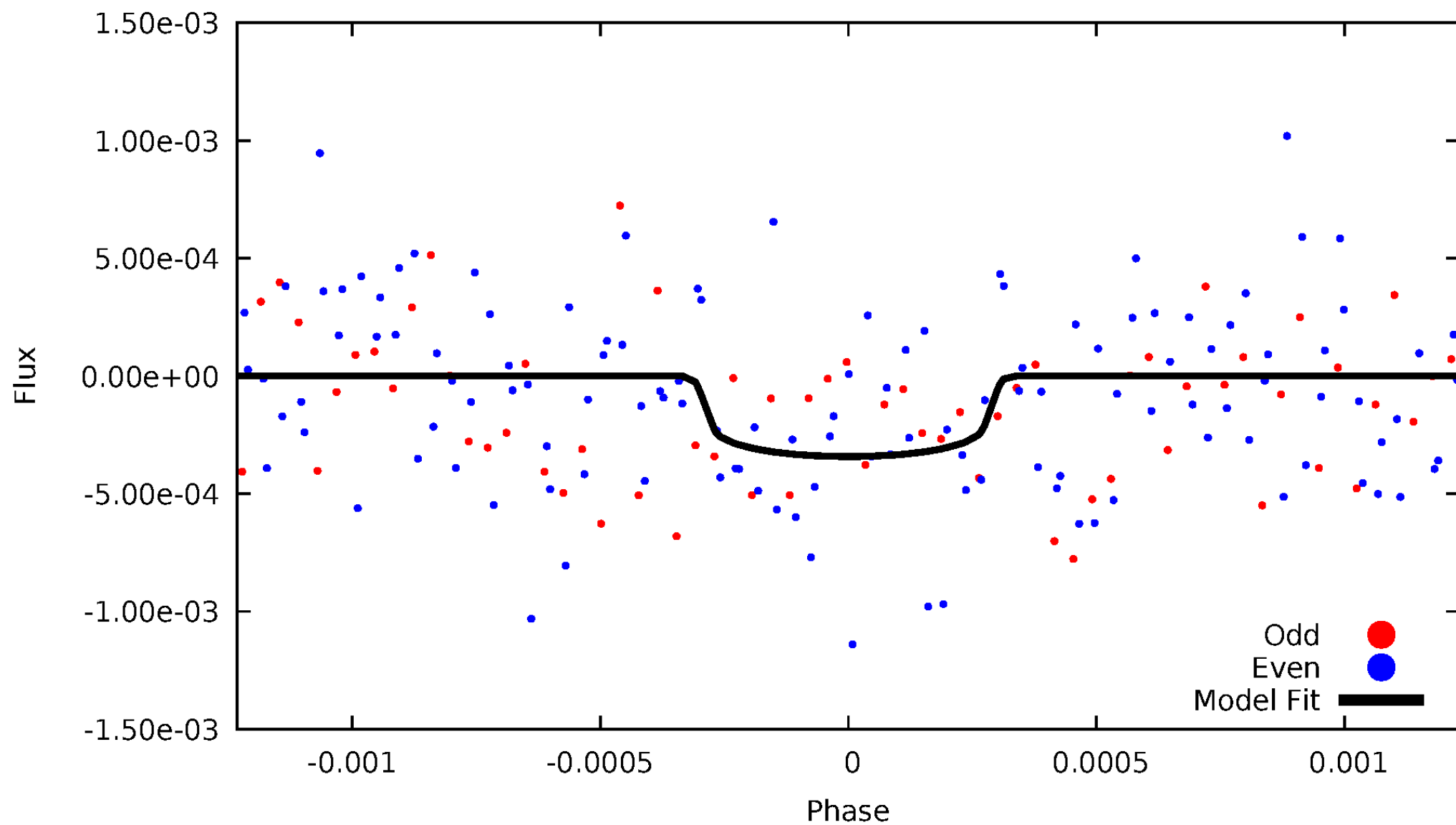


TCE 008411255-01



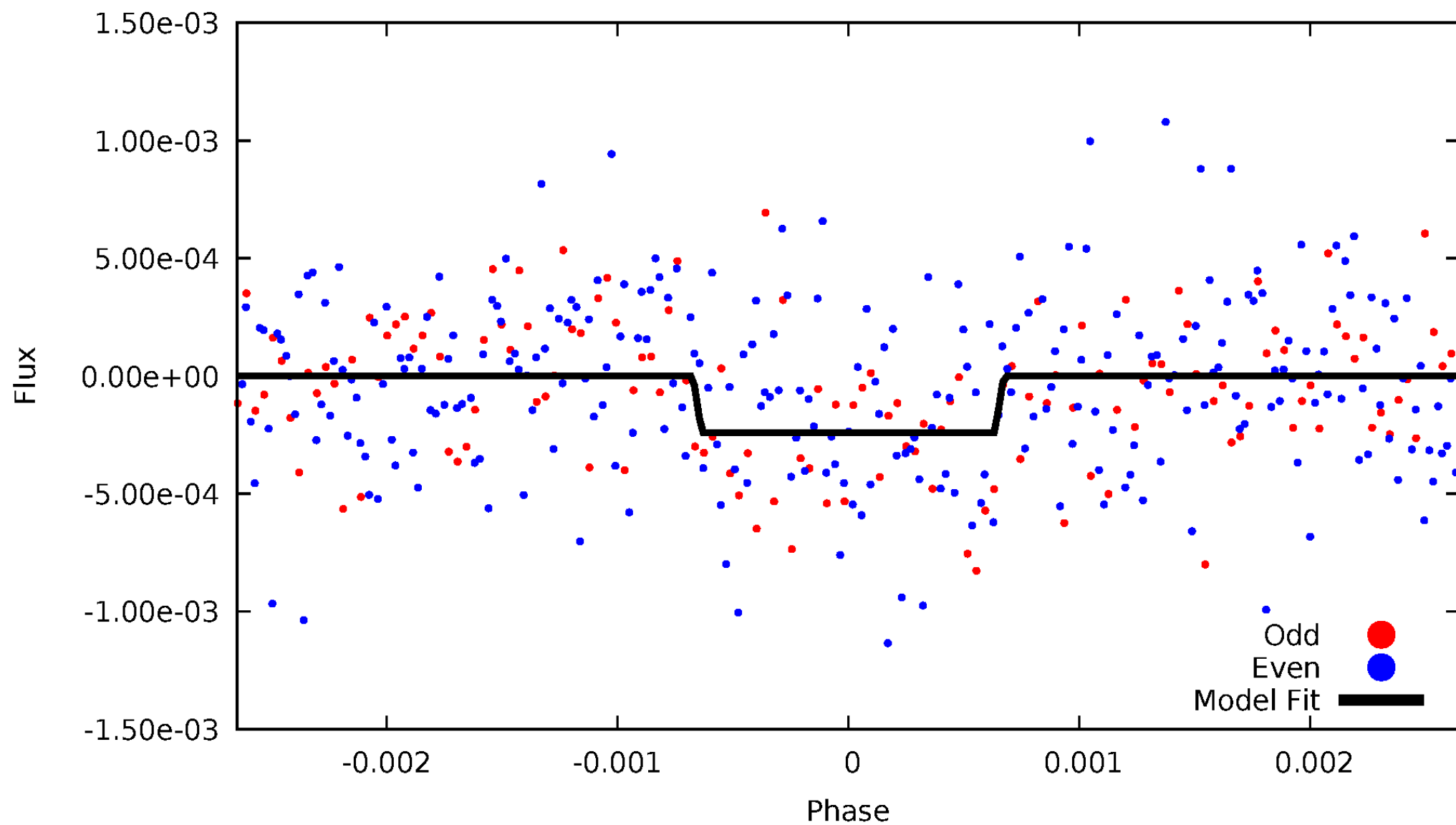
# DV Odd/Even

TCE 008411255-01



# ALT Odd/Even

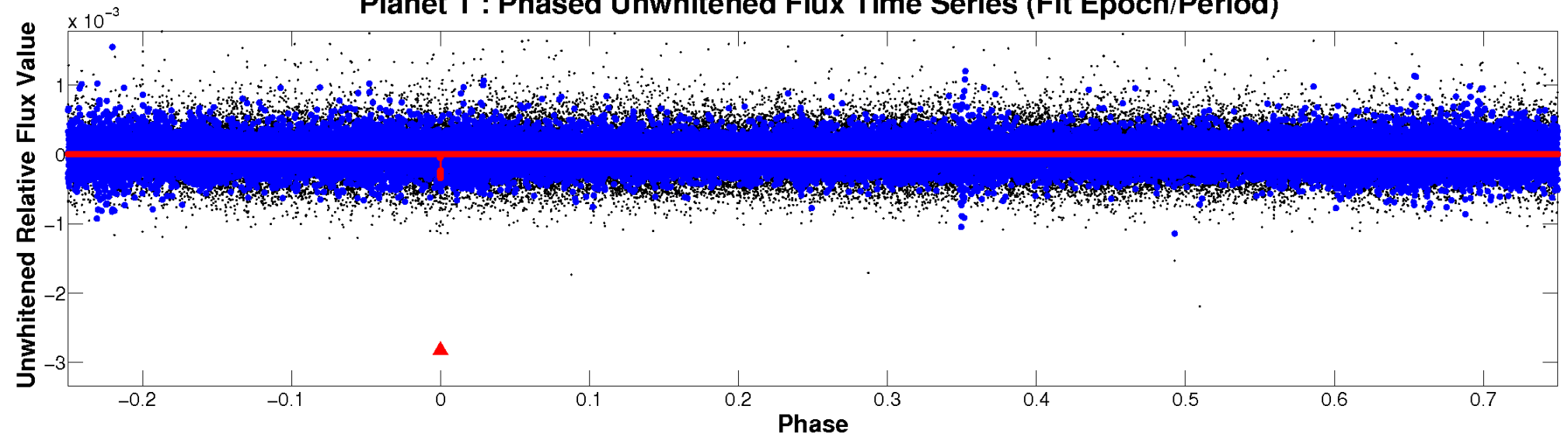
TCE 008411255-01



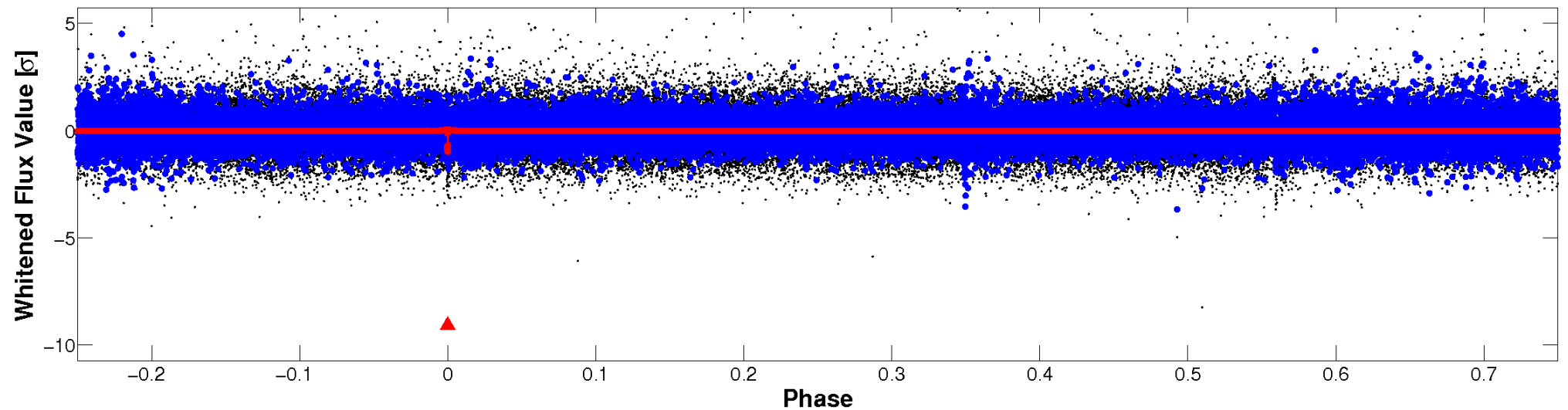


# Non-Whitened Vs. Whitened Light Curve

**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

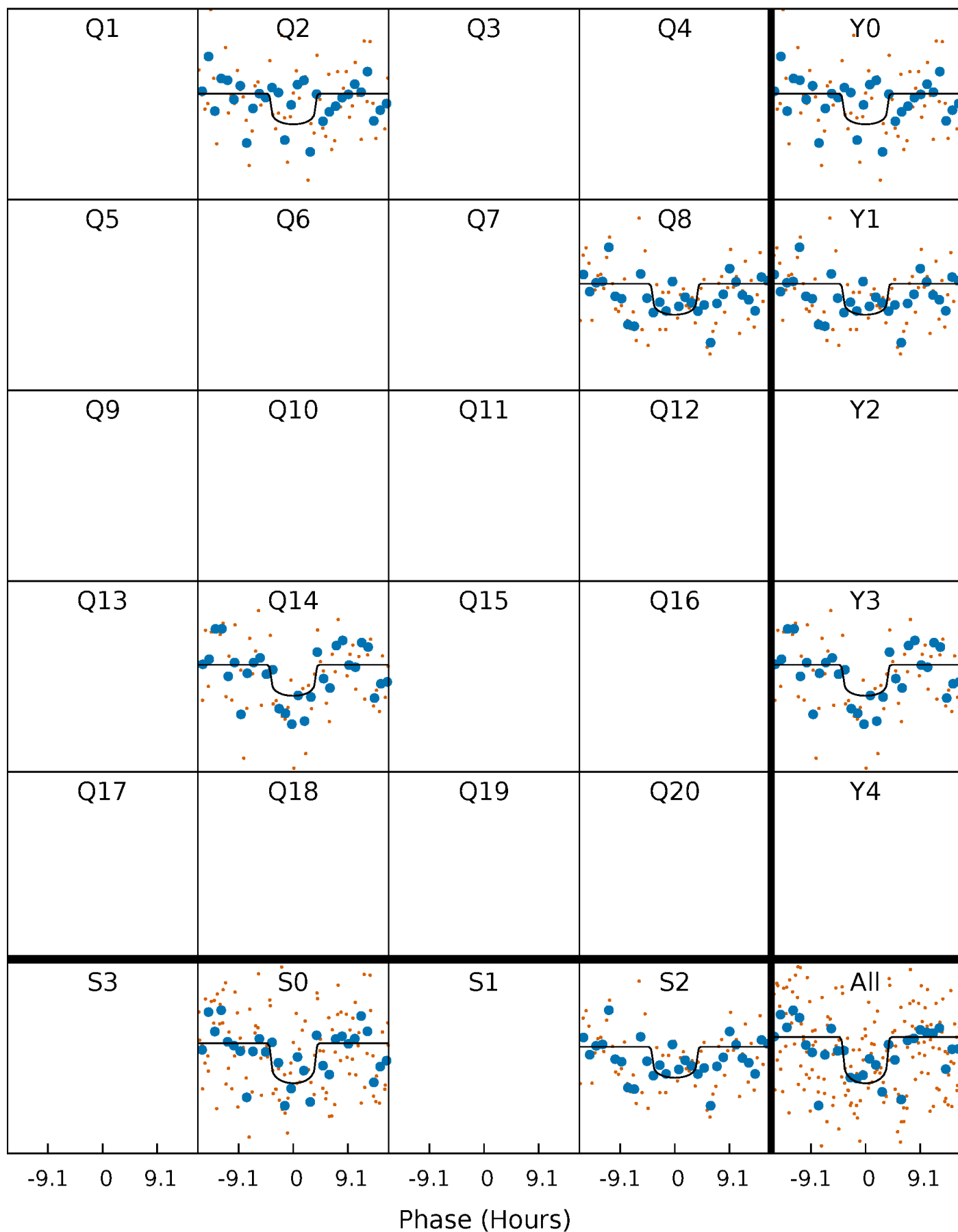
TCE 008411255-01 P=536.522995 Days  $T_0=211.306572$  (BKJD)





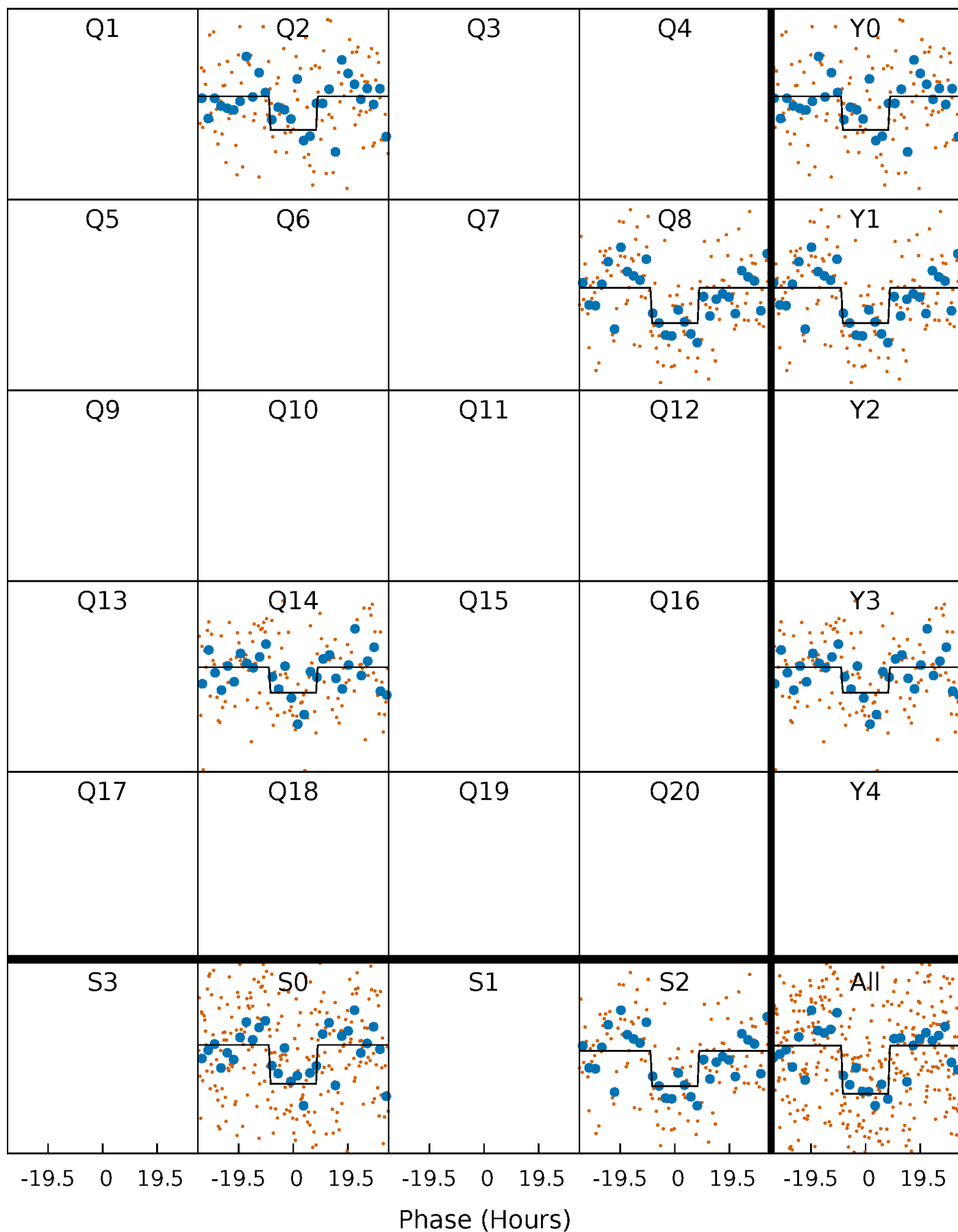
# DV Quarter-Phased Transit Curves

TCE 008411255-01 P=536.522995 Days  $T_0=211.306572$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

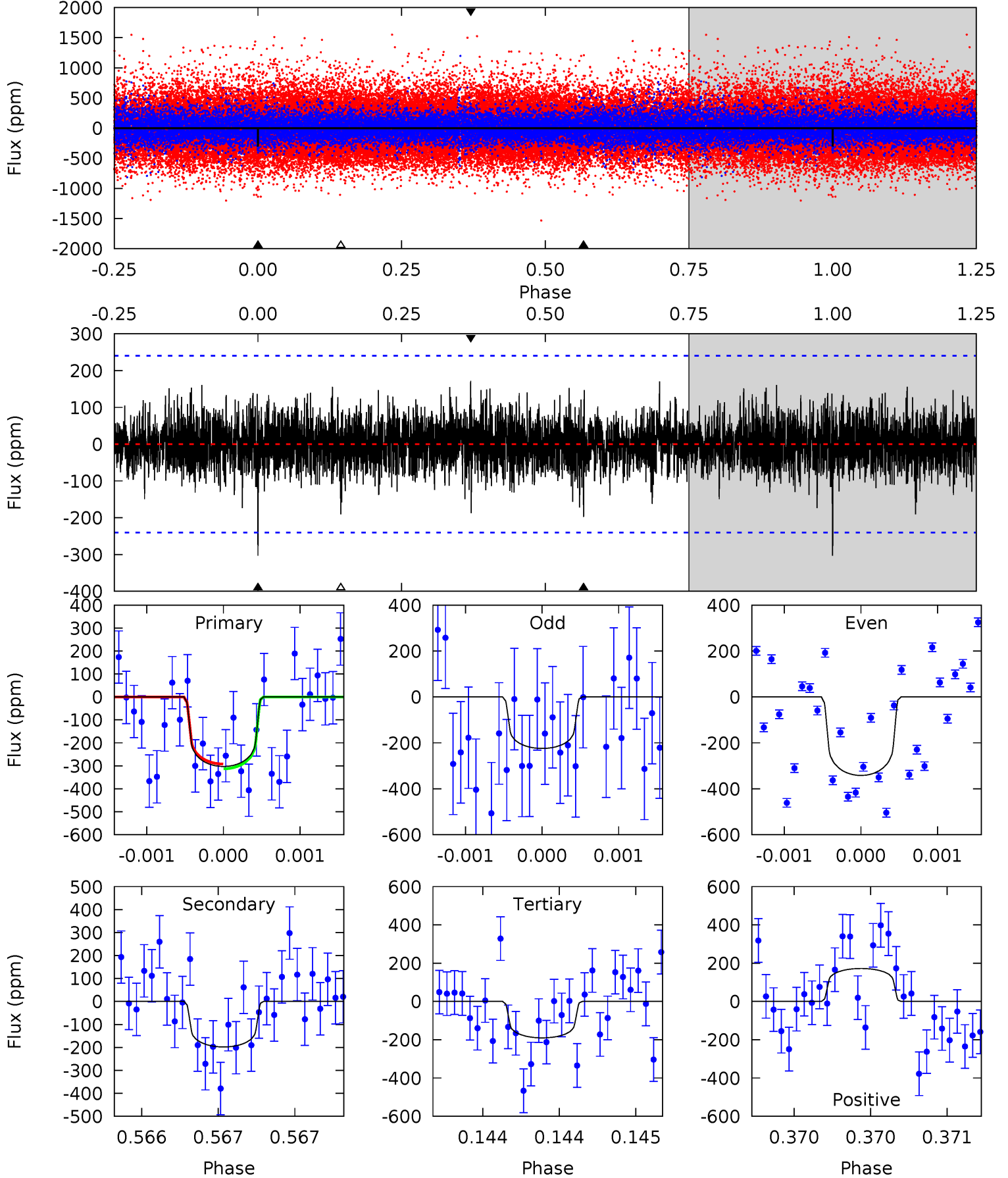
TCE 008411255-01 P=536.489929 Days  $T_0=211.285259$  (BKJD)



# DV Model-Shift Uniqueness Test

008411255-01, P = 536.522995 Days, E = 211.306572 Days

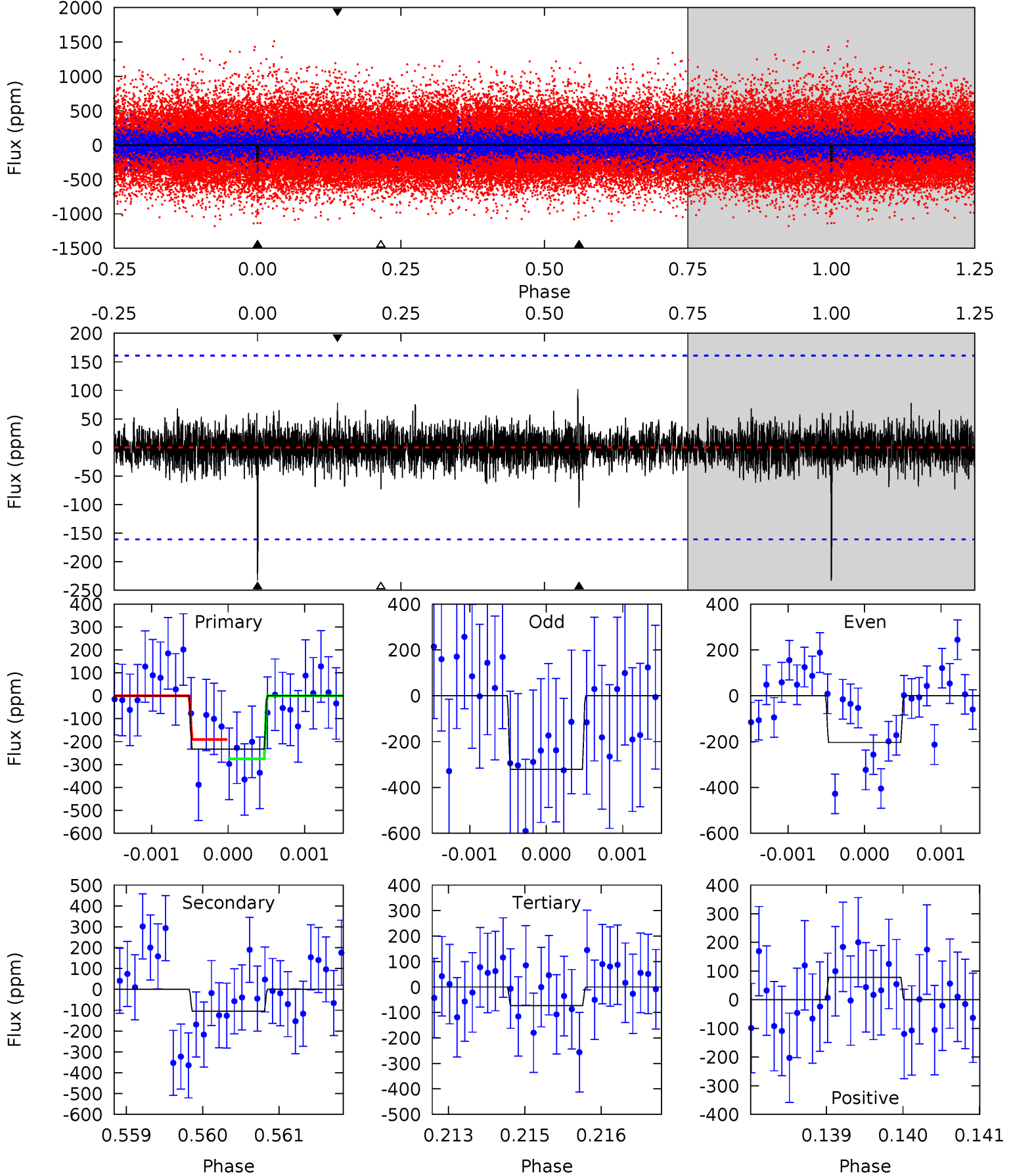
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.96	4.56	4.38	3.96	5.53	3.41	1.09	2.59	3.00	0.18	0.59	1.26	1.35	0.36	0.24



# Alt Model-Shift Uniqueness Test

008411255-01, P = 536.489929 Days, E = 211.285259 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
7.82	3.55	2.46	2.62	5.40	3.21	0.66	5.37	5.20	1.09	0.93	1.82	0.91	0.30	1.42



### Stellar Parameters For KIC 008411255

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6129^{+182}_{-200}$	$4.359^{+0.112}_{-0.192}$	$-0.240^{+0.300}_{-0.300}$	$1.088^{+0.332}_{-0.179}$	$0.986^{+0.152}_{-0.111}$	$1.077^{+0.633}_{-0.540}$
	+3%/-3%	+3%/-4%	+125%/-125%	+31%/-16%	+15%/-11%	+59%/-50%
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 008411255-01 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	$A_{obs}$
DV	$-198 \pm 43$	$2.41^{+1.47}_{-1.38}$	$351^{+27}_{-20}$	$5217^{+2602}_{-908}$	$29823^{+127657}_{-18126}$
Alt.	$-106 \pm 30$	$2.06^{+1.45}_{-1.27}$	$351^{+27}_{-20}$	$4937^{+2929}_{-996}$	$23221^{+133458}_{-16159}$

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

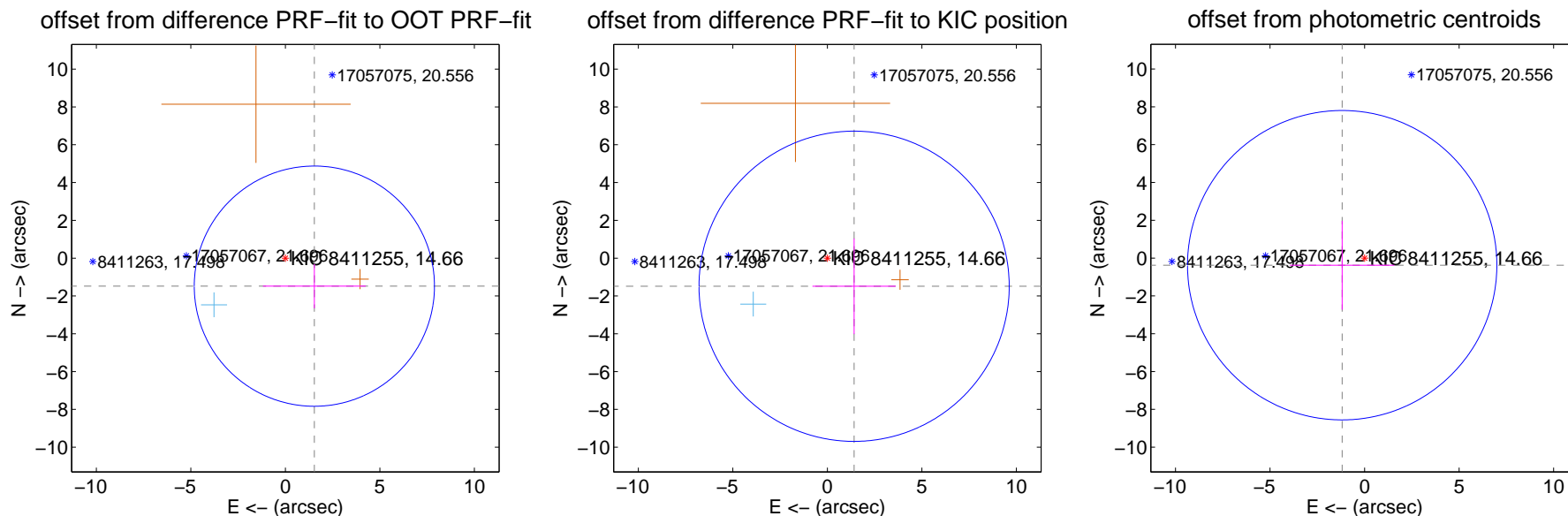
## DV Centroid Data

Supplemental centroid analysis for 008411255-01. Kepler magnitude: 14.66. Transit SNR 5.99

There are 1 quarters with good PRF difference image offsets

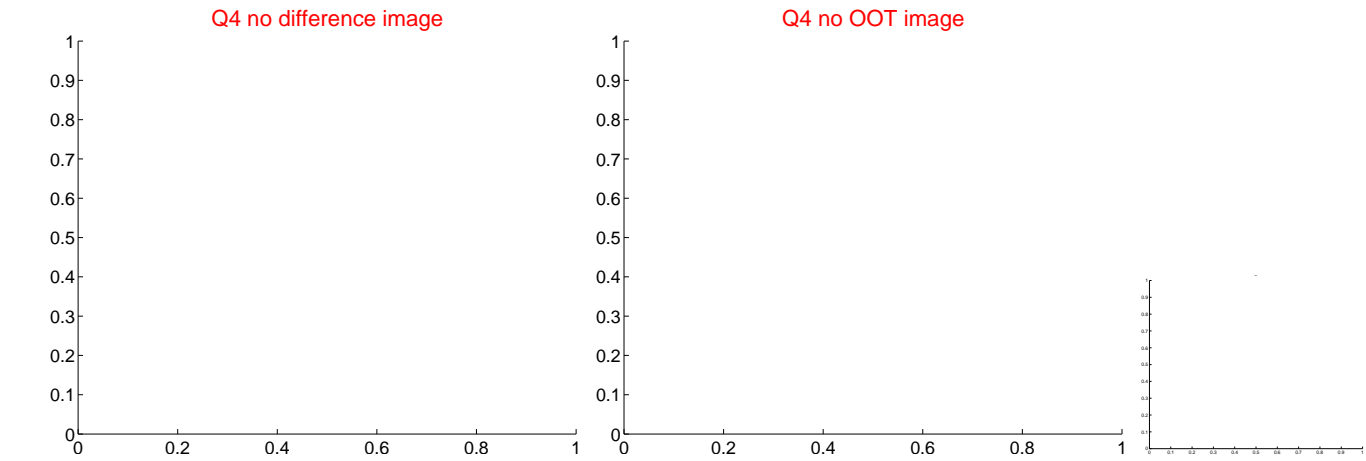
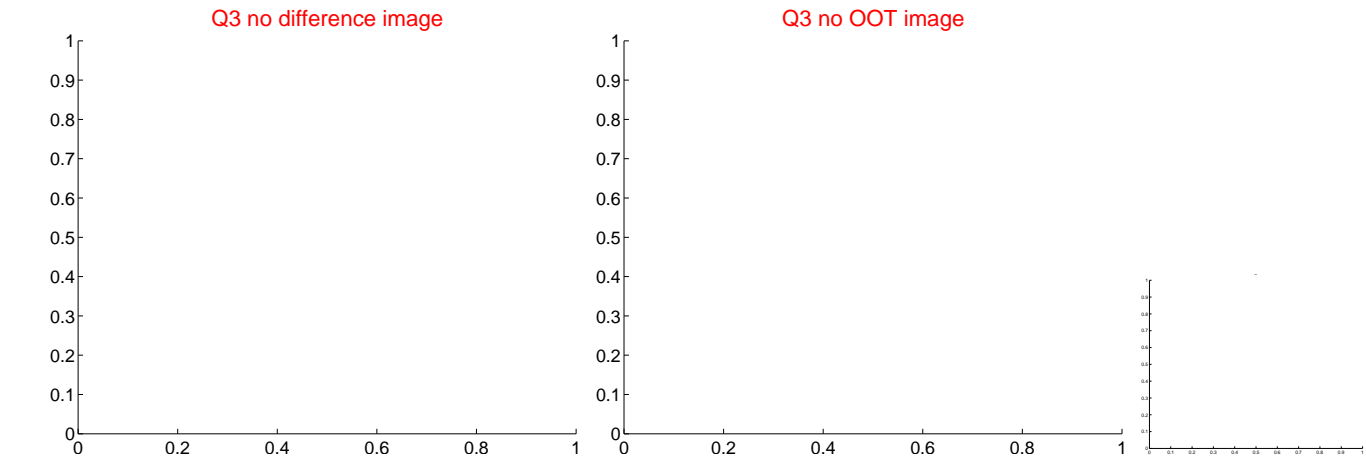
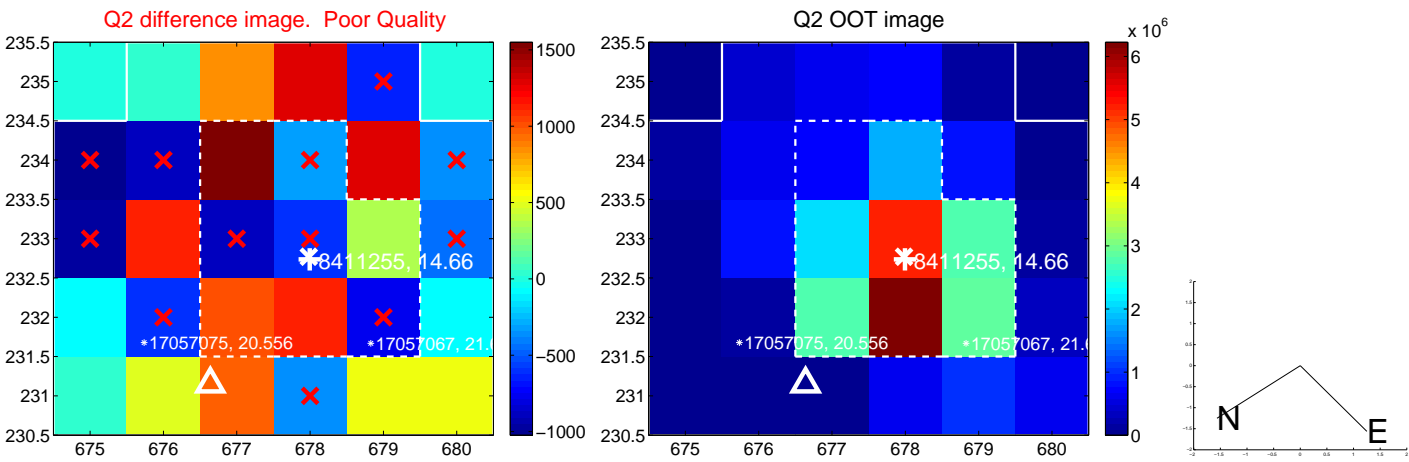
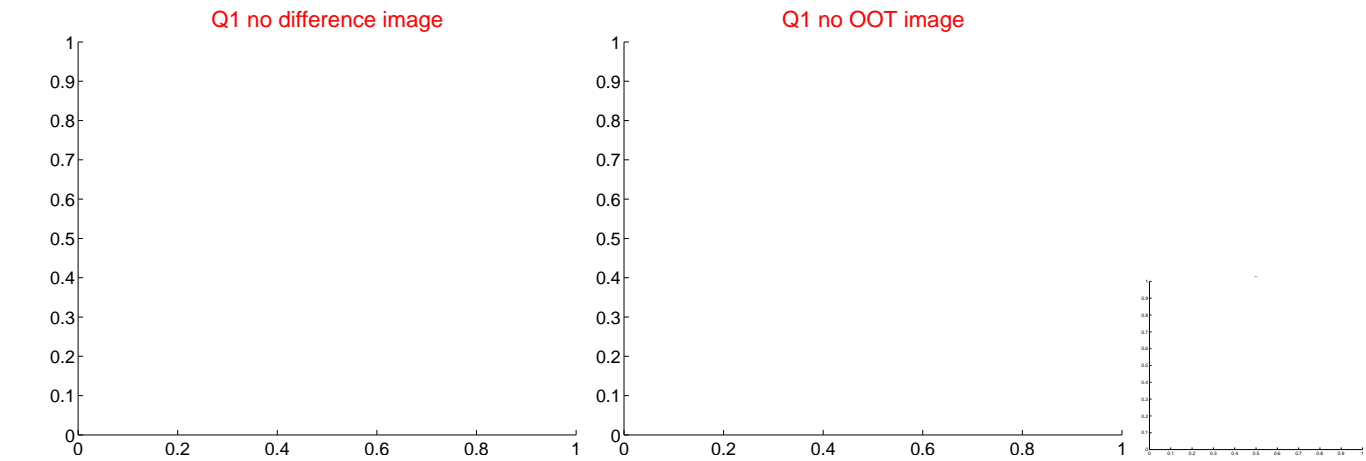
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$2.133 \pm 2.118$	1.01	$-1.534 \pm 2.719$	$-1.481 \pm 1.169$
PRF-fit source offset from KIC position	$2.053 \pm 2.735$	0.75	$-1.415 \pm 2.204$	$-1.486 \pm 2.530$
photometric centroid source offset	$1.24 \pm 2.73$	0.46	$1.18 \pm 2.76$	$-0.38 \pm 2.35$



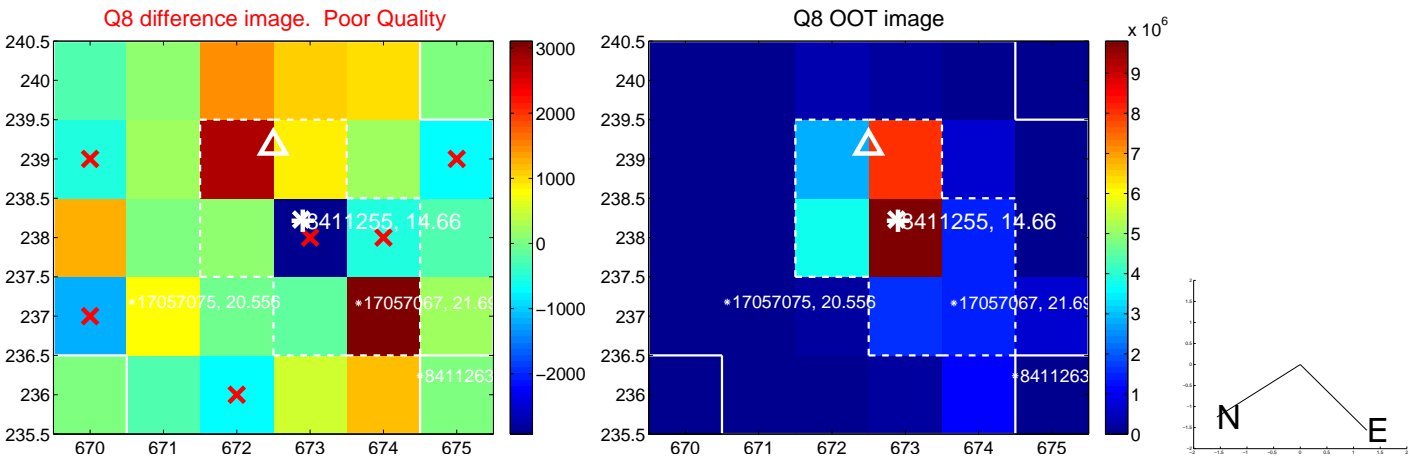
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three-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





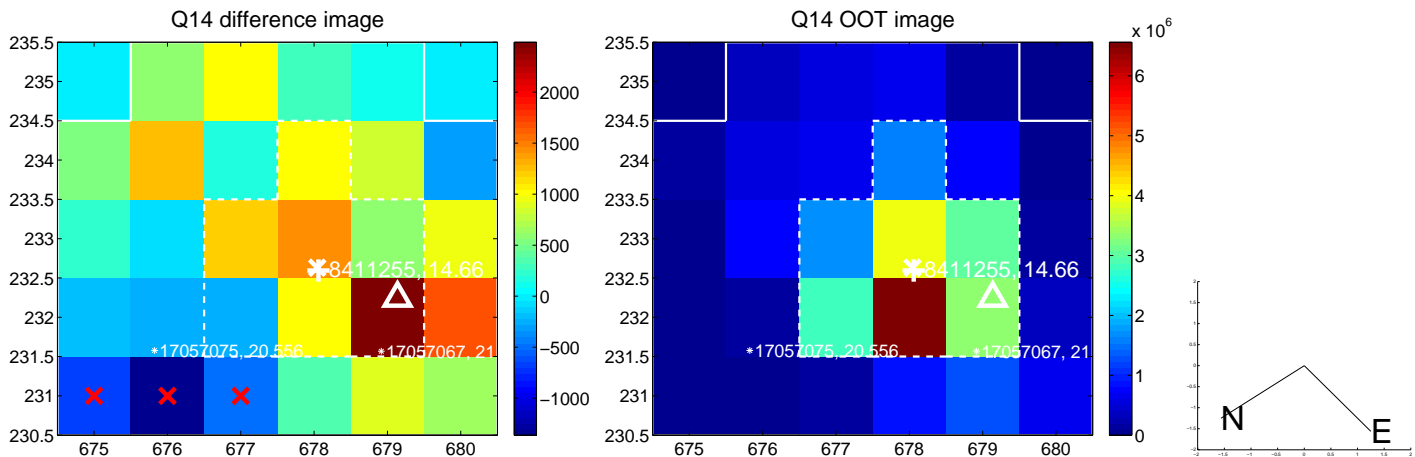
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



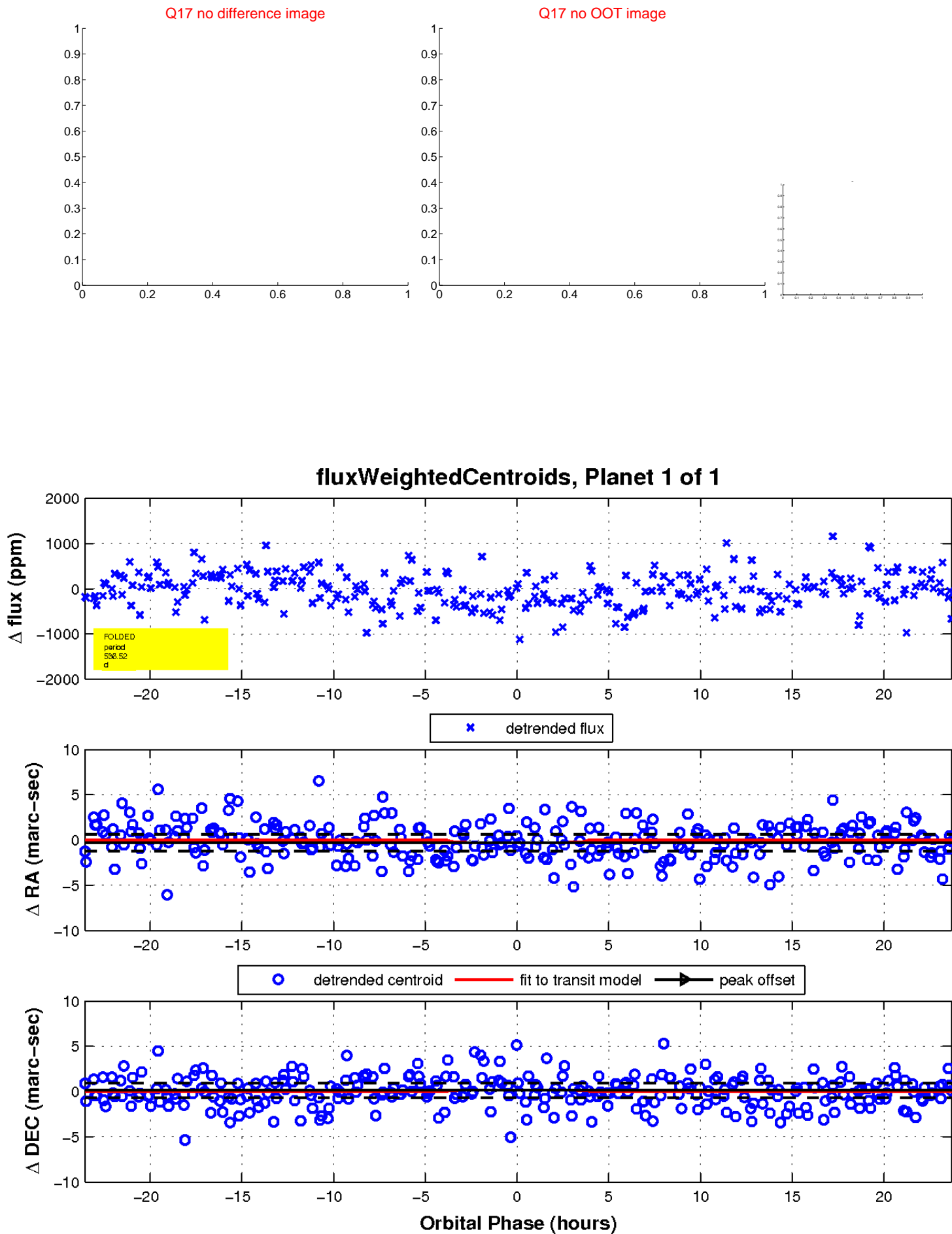
white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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



UKIRT Image

Declination

