

# KIC 008904714

## 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)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
008904714-01	OBS	5582.01	5.237321	133.445117	3074.6	2.666	38.4	37.7	1.63	6176	14.73	854.83

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008904714-01	OBS	FP	0.00	0	1	0	0	DEEP_V_SHAPED—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 008904714-01

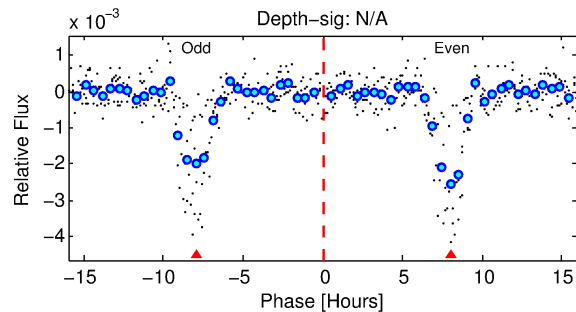
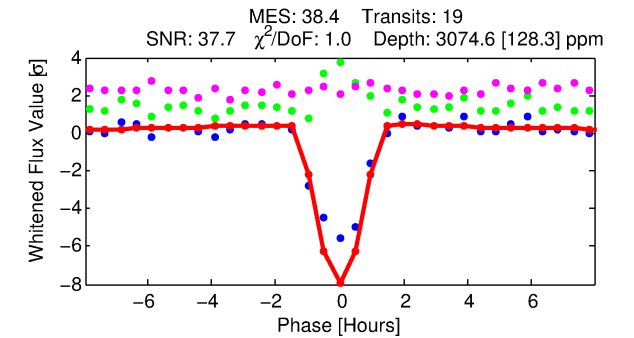
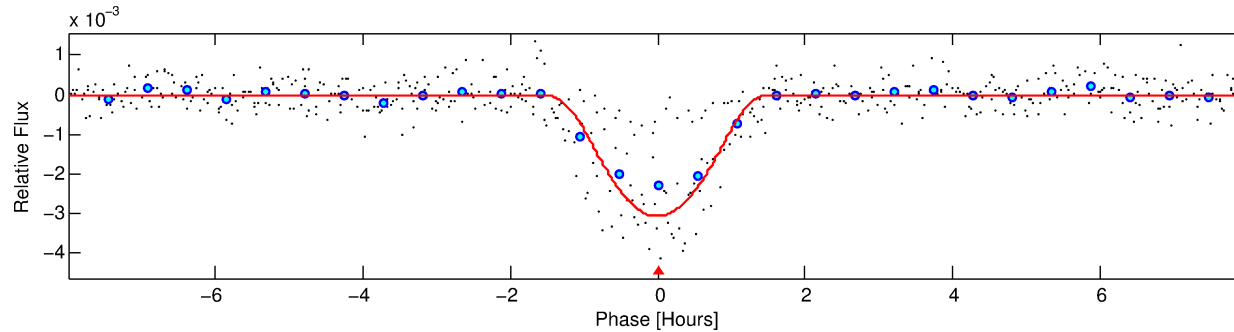
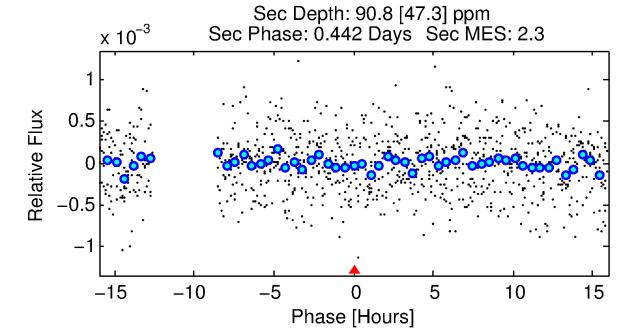
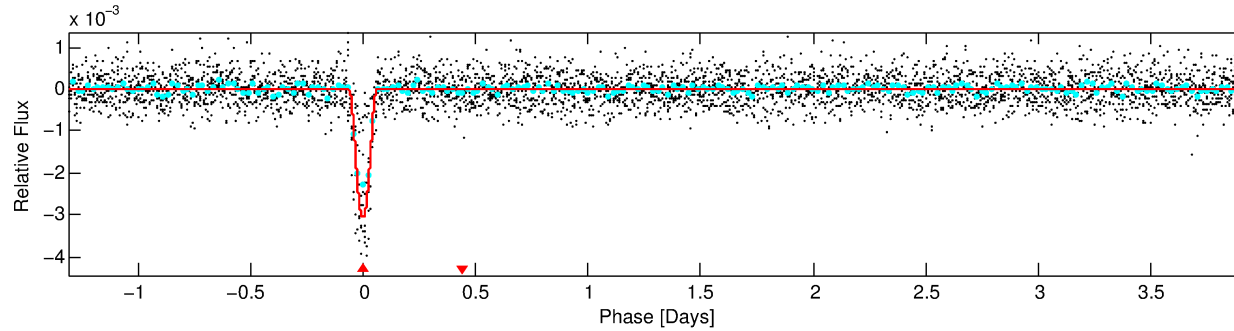
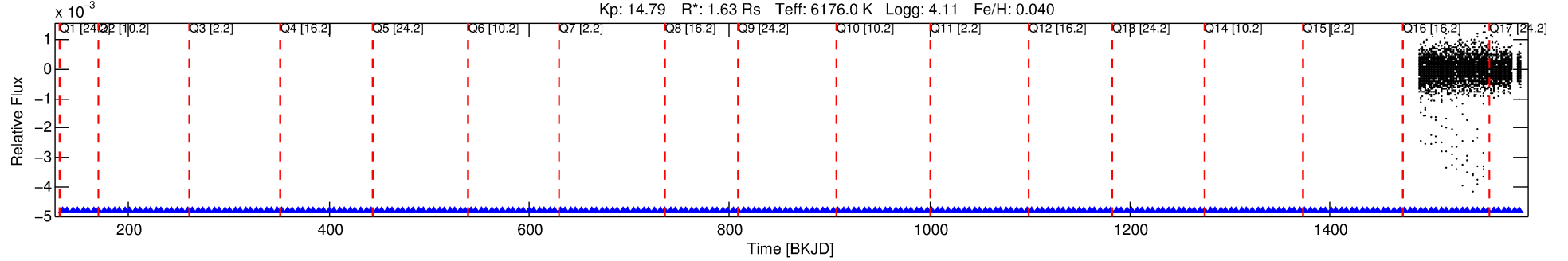
No Significant Match Found

# DV One-Page Summary

KIC: 8904714 Candidate: 1 of 1 Period: 5.237 d

KOI: K05582 Corr: No Ephemeris Match

Kp: 14.79 R\*: 1.63 Rs Teff: 6176.0 K Logg: 4.11 Fe/H: 0.040



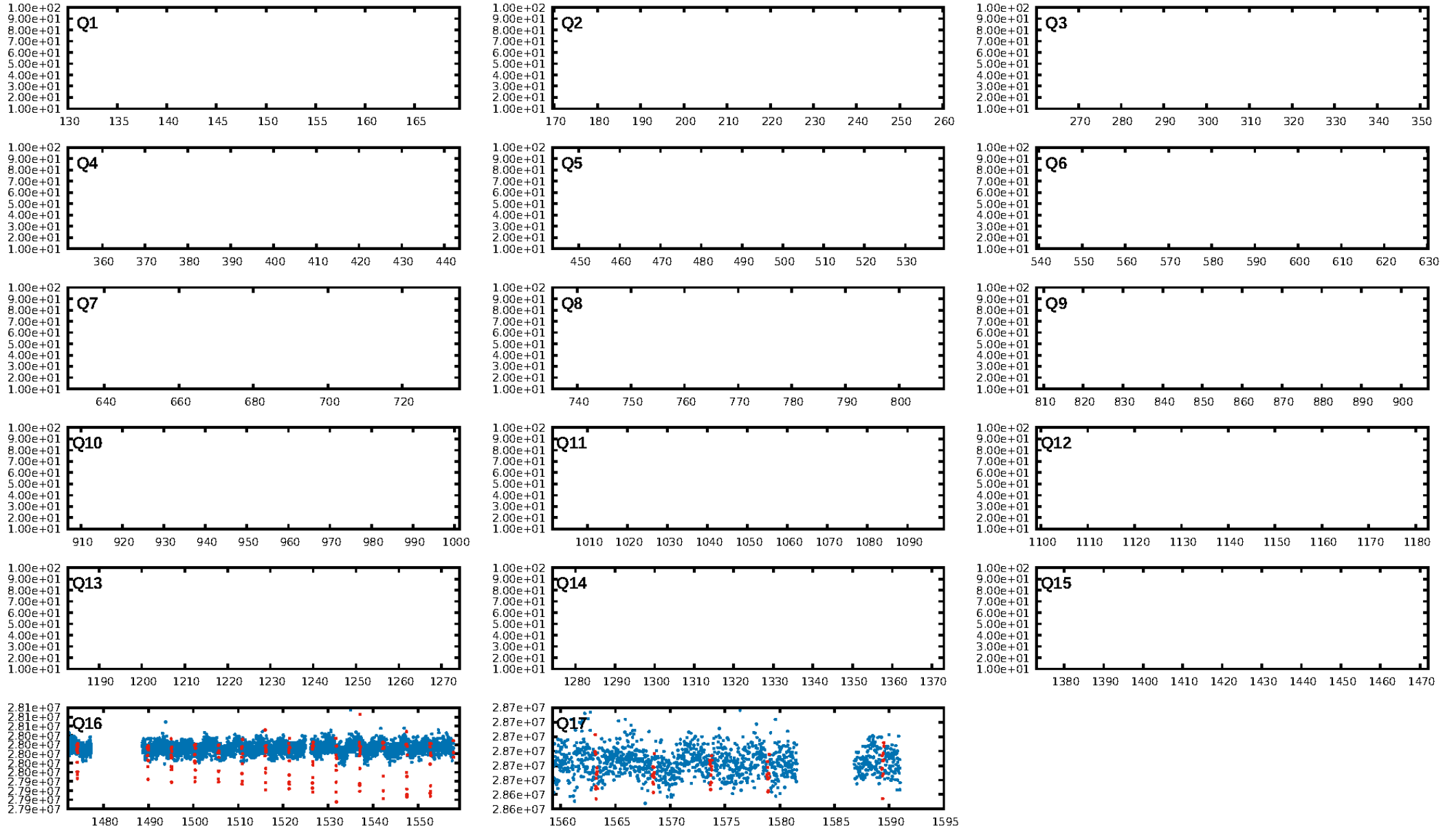
## DV Fit Results:

Period = 5.23732 [0.00001] d  
Epoch = 133.4451 [0.0022] BKJD  
Rp/R\* = 0.0828 [0.0616]  
a/R\* = 6.93 [1.45]  
b = 0.98 [0.10]  
Seff = 854.83 [401.35]  
Teq = 1379 [162] K  
Rp = 14.73 [11.81] Re  
a = 0.0637 [0.0179] AU  
Ag = 0.93 [1.53] [-0.04σ]  
Teffp = 2095 [830] K [0.85σ]

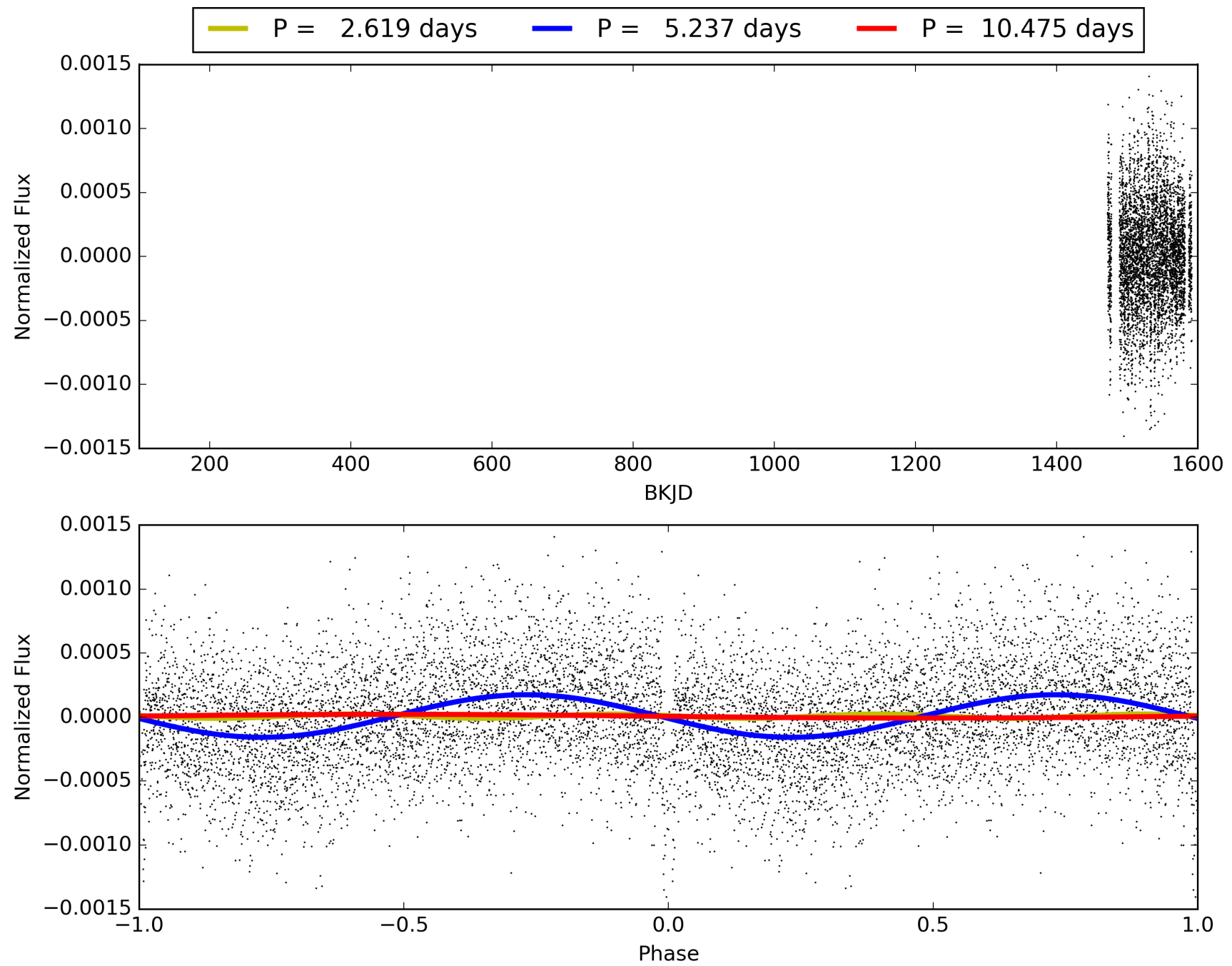
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: 0.0%  
ModelChiSquareGoF-sig: 98.5%  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [14/14]  
GhostDiagnostic-chr: -0.3672  
Centroid-sig: 0.0%  
Centroid-so: 30.650 arcsec [122.03σ]  
OotOffset-rm: N/A  
KicOffset-rm: N/A  
OotOffset-st: 0/0/0/0 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: 1.00 [2/2]

# TCE 008904714-01, PDC Light Curves

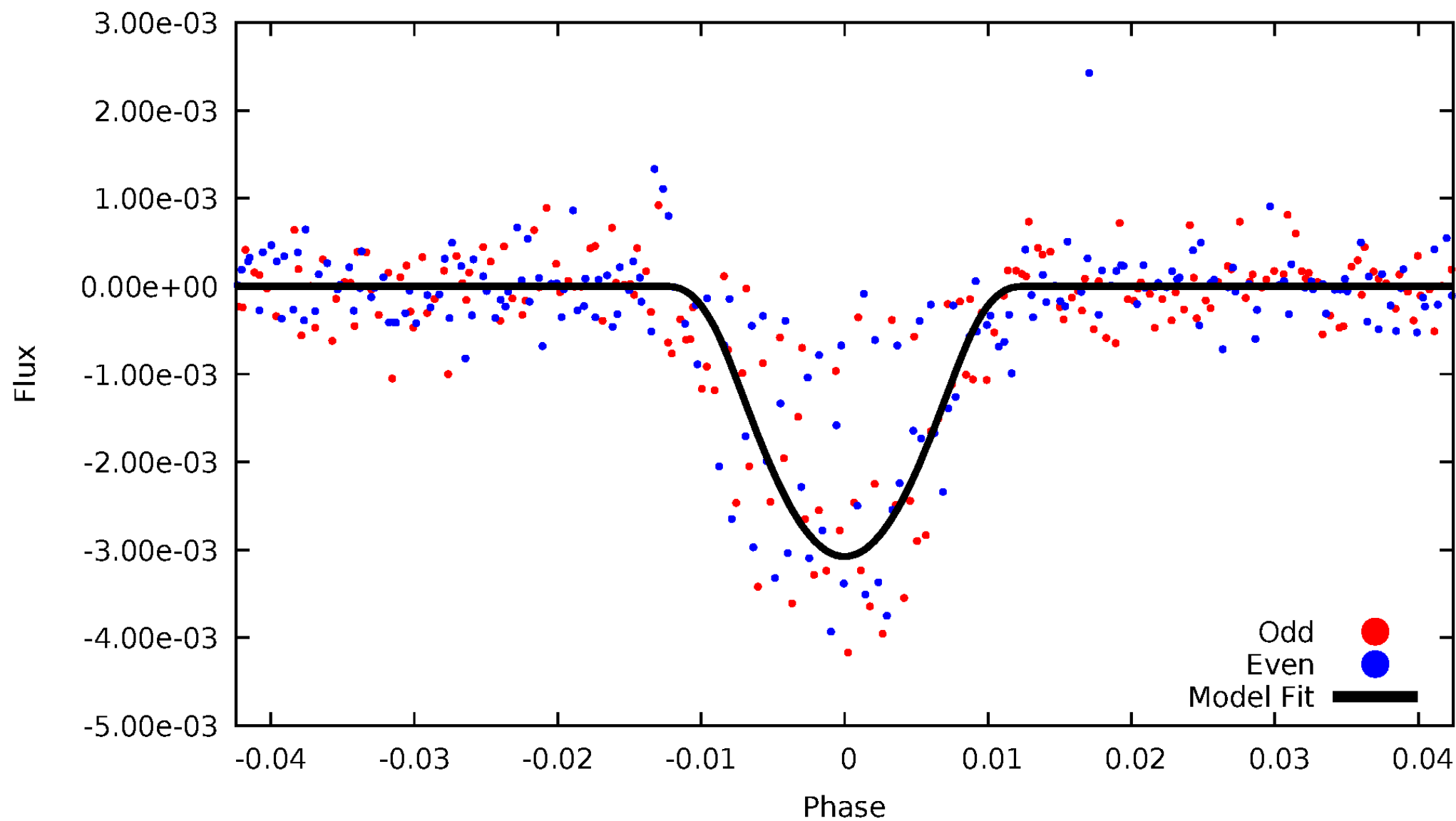


TCE 008904714-01



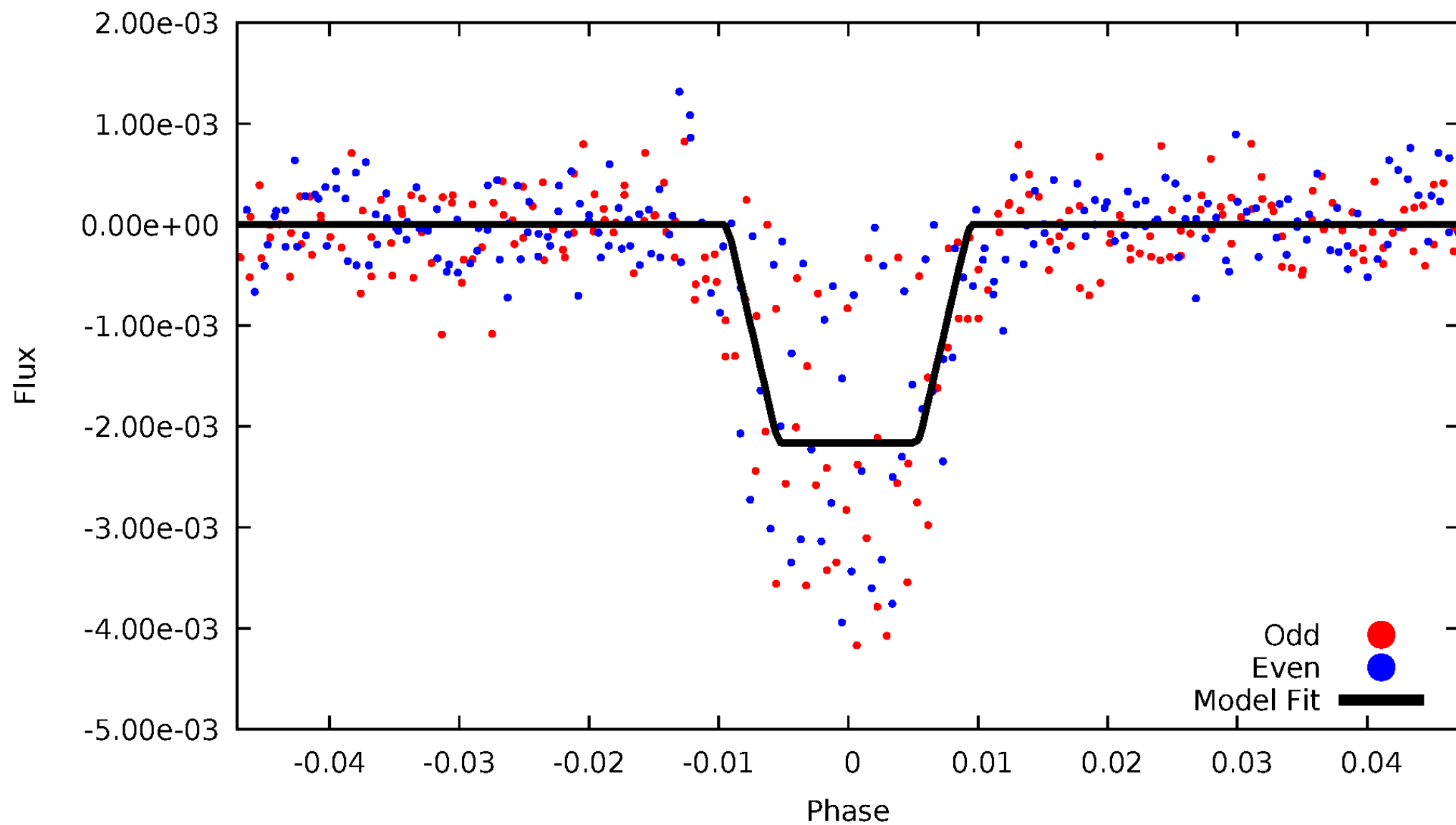
# DV Odd/Even

TCE 008904714-01



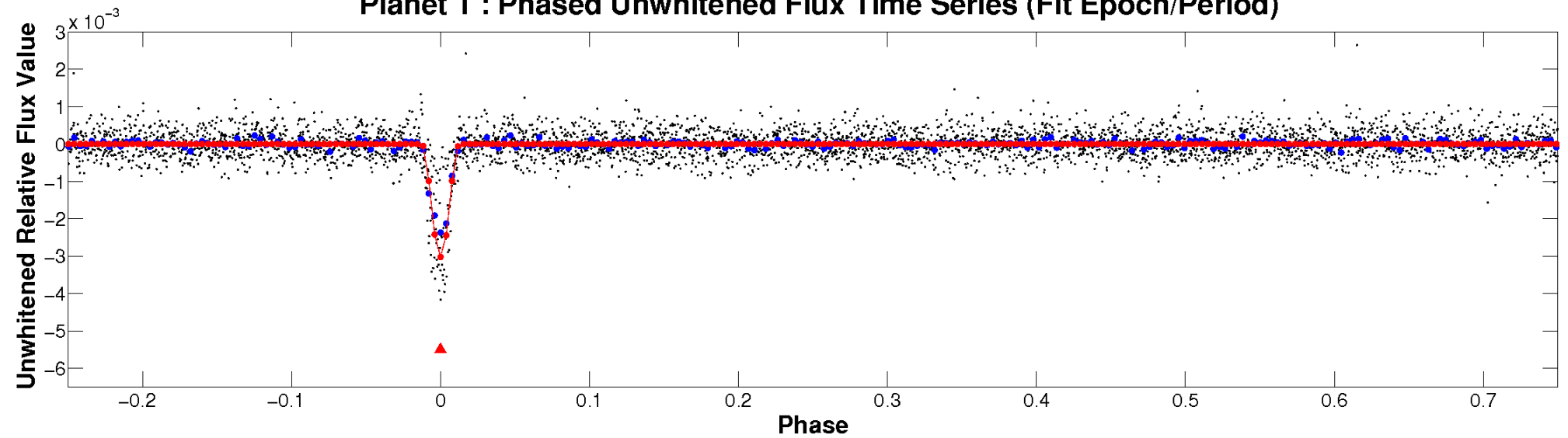
# ALT Odd/Even

TCE 008904714-01

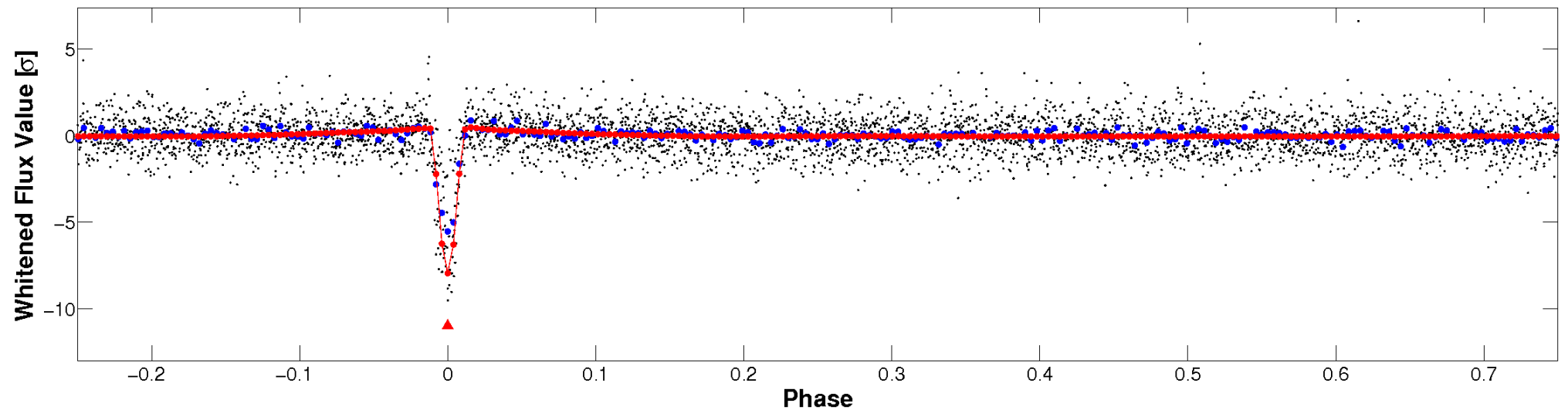


# Non-Whitened Vs. Whitened Light Curve

**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

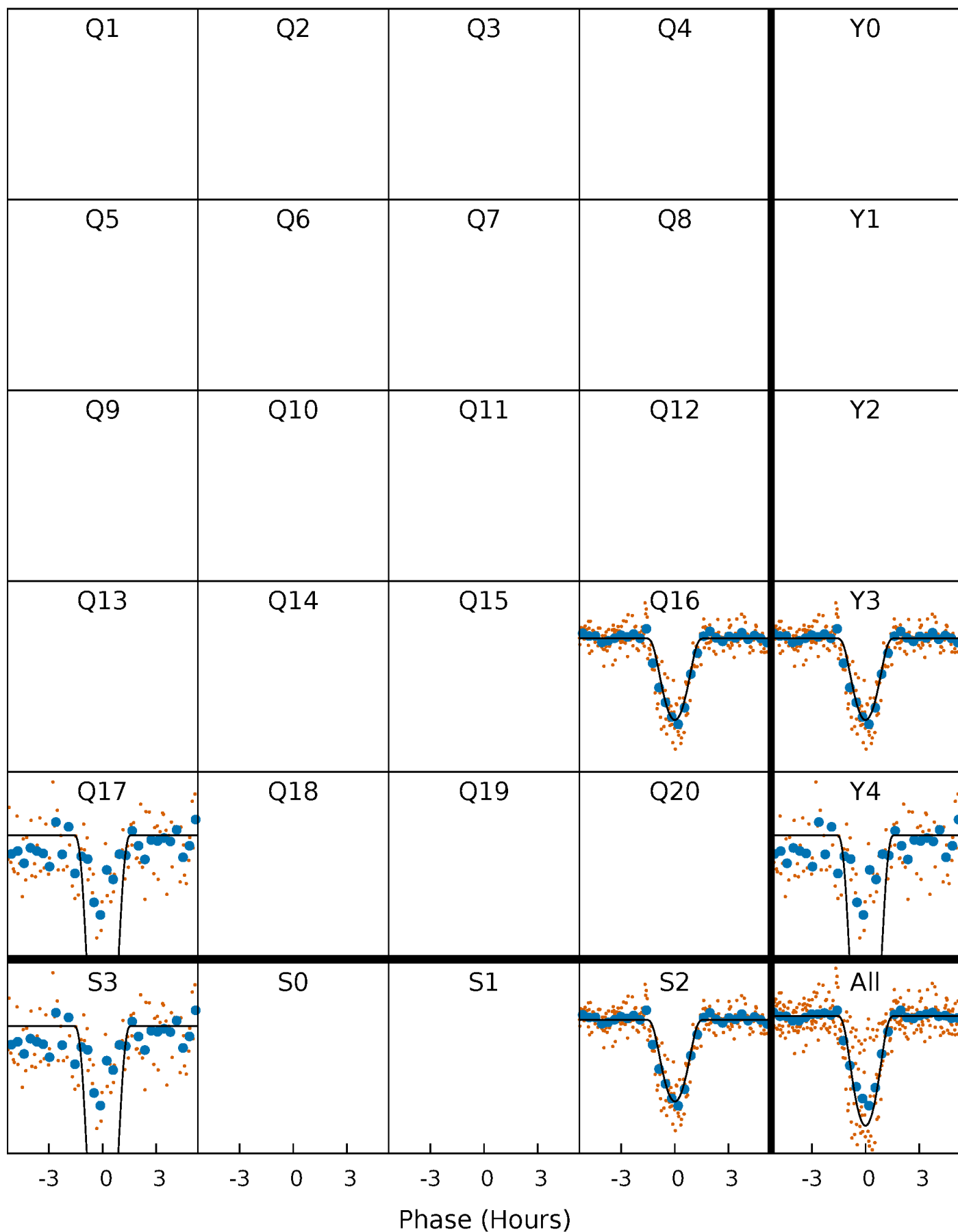
TCE 008904714-01 P= 5.237321 Days  $T_0=133.445117$  (BKJD)





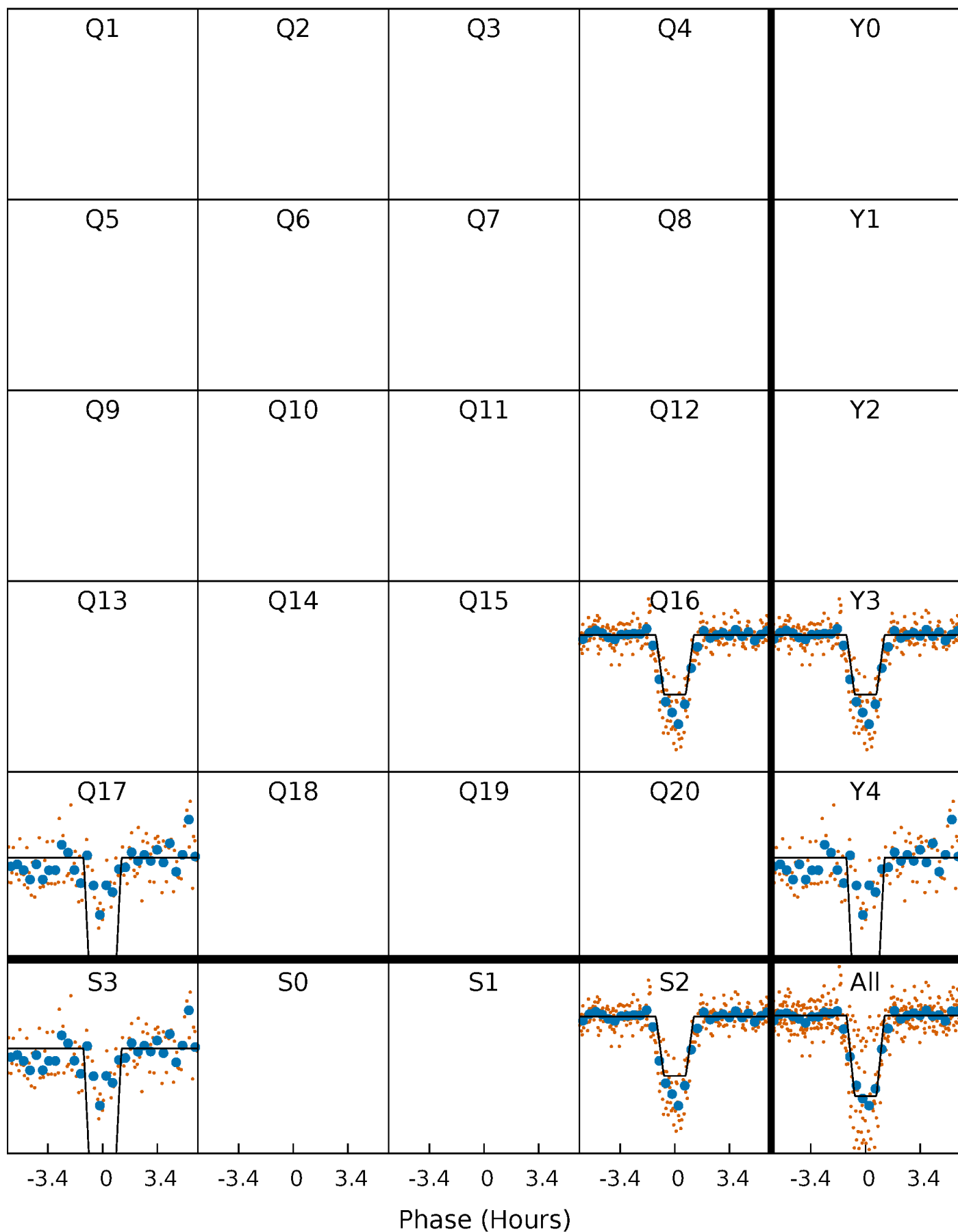
# DV Quarter-Phased Transit Curves

TCE 008904714-01 P= 5.237321 Days  $T_0=133.445117$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

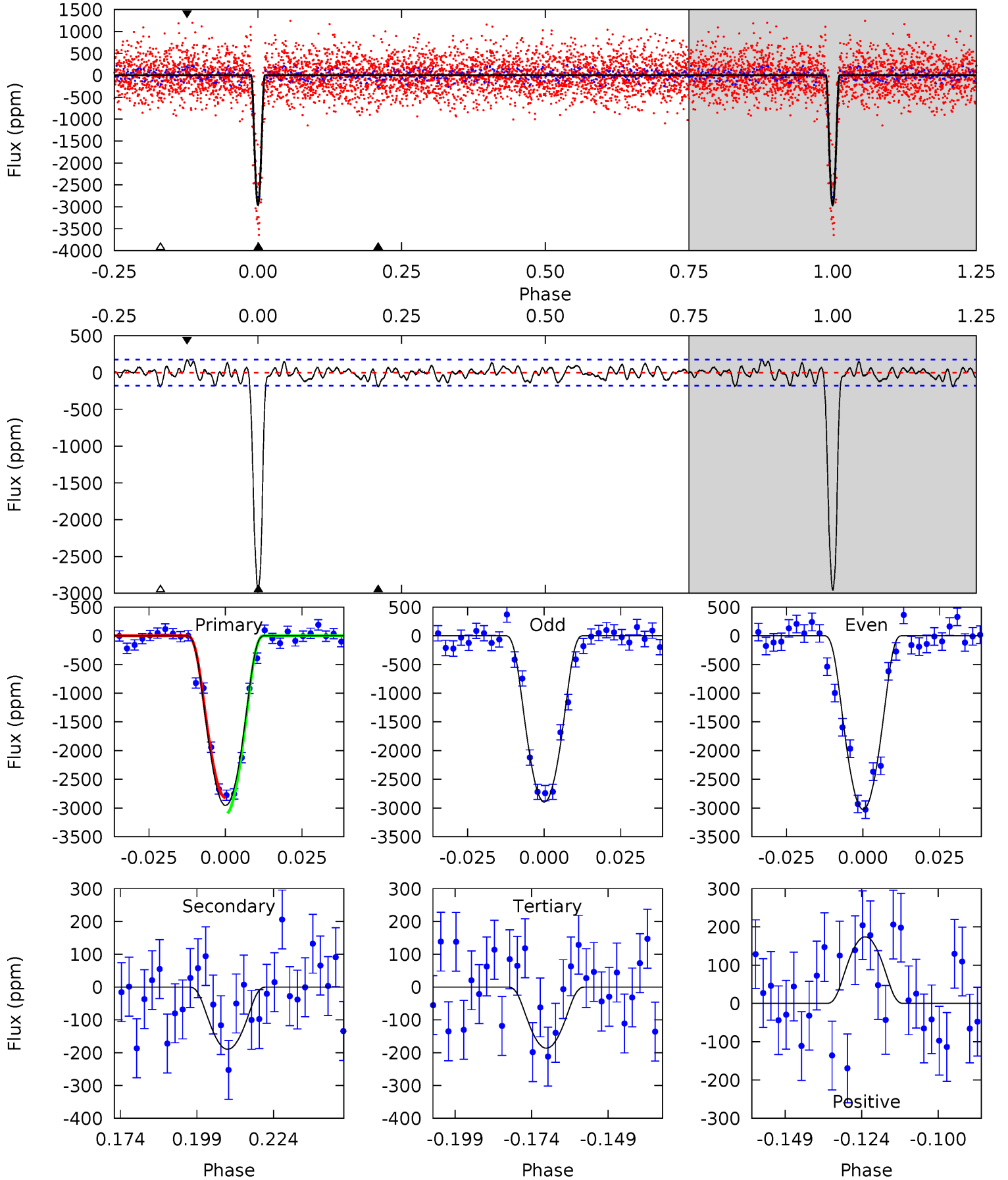
TCE 008904714-01 P= 5.237138 Days  $T_0=133.492210$  (BKJD)



# DV Model-Shift Uniqueness Test

008904714-01, P = 5.237321 Days, E = 133.445117 Days

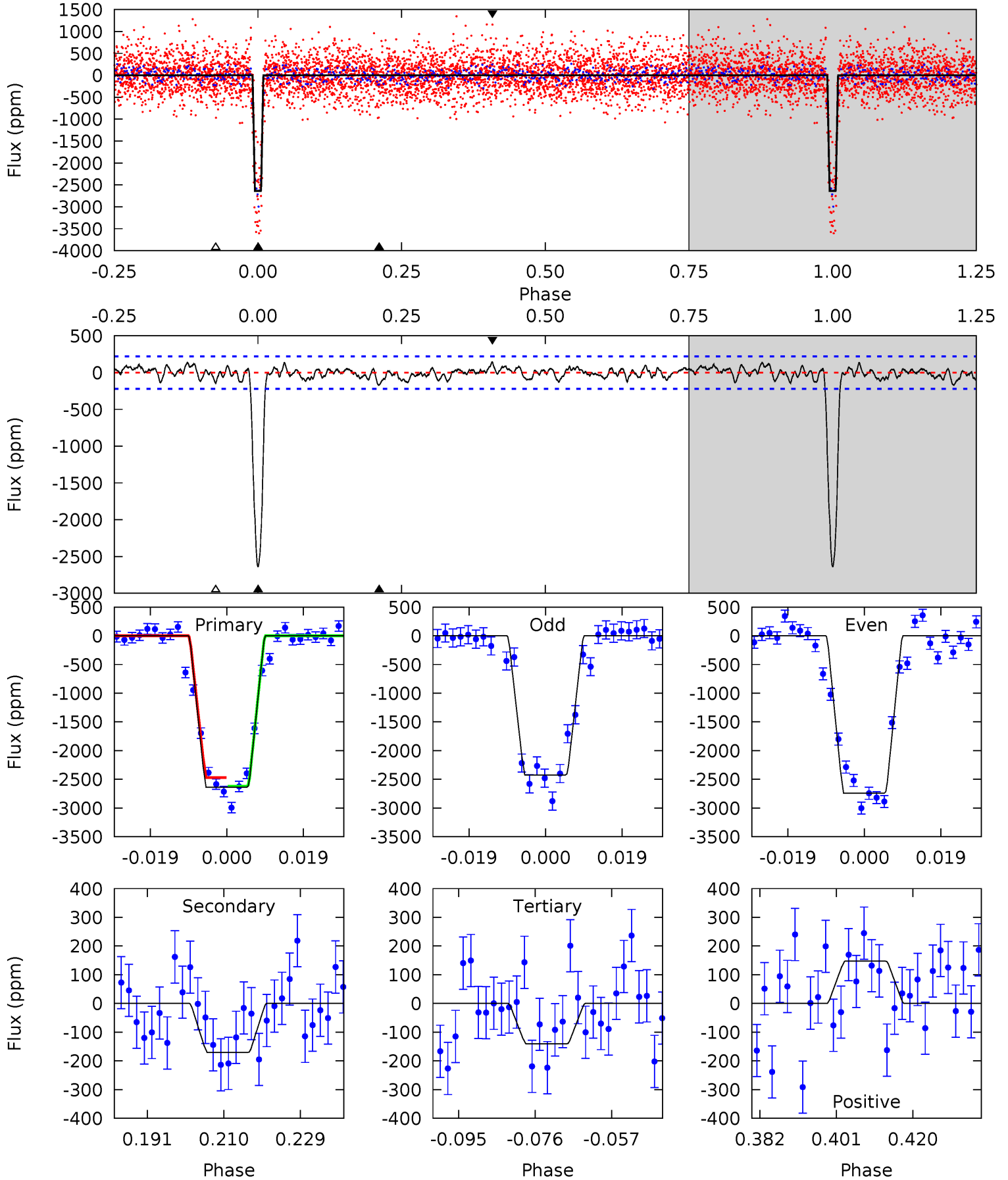
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
80.2	5.14	5.05	4.72	4.85	2.24	1.70	75.1	75.4	0.09	0.42	1.73	0.95	0.06	3.67



# Alt Model-Shift Uniqueness Test

008904714-01, P = 5.237138 Days, E = 133.492210 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
58.4	3.78	3.11	3.26	4.90	2.34	1.24	55.3	55.2	0.66	0.51	3.52	0.93	0.05	0



### Stellar Parameters For KIC 008904714

	$T_{\text{eff}} (K)$	$\log(g)$	$[\text{Fe}/\text{H}]$	$R (R_{\odot})$	$M (M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$6176^{+195}_{-239}$	$4.112^{+0.258}_{-0.172}$	$0.040^{+0.250}_{-0.300}$	$1.631^{+0.487}_{-0.487}$	$1.255^{+0.165}_{-0.247}$	$0.407^{+0.668}_{-0.195}$
	+3%/-4%	+6%/-4%	+625%/-750%	+30%/-30%	+13%/-20%	+164%/-48%
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 008904714-01 / KOI 5582.01

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{\text{max}} (K)$	$T_{\text{obs}} (K)$	$A_{\text{obs}}$
DV	$-190 \pm 37$	$15.05^{+10.88}_{-8.54}$	$1896^{+163}_{-154}$	$2976^{+996}_{-535}$	$1.776^{+7.998}_{-1.175}$
Alt.	$-171 \pm 45$	$10.92^{+9.64}_{-7.19}$	$1898^{+167}_{-152}$	$3279^{+1532}_{-650}$	$3.088^{+23.842}_{-2.248}$

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

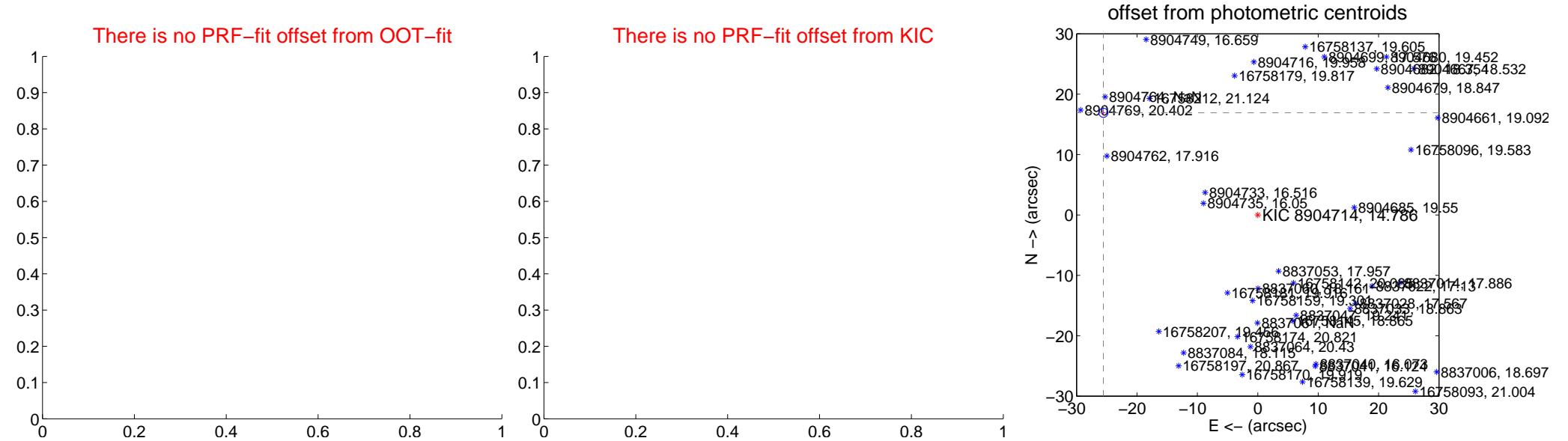
## DV Centroid Data

Supplemental centroid analysis for 008904714-01. Kepler magnitude: 14.79. Transit SNR 37.68

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	$30.65 \pm 0.25$	$122.03$	$25.56 \pm 0.25$	$16.92 \pm 0.25$



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.



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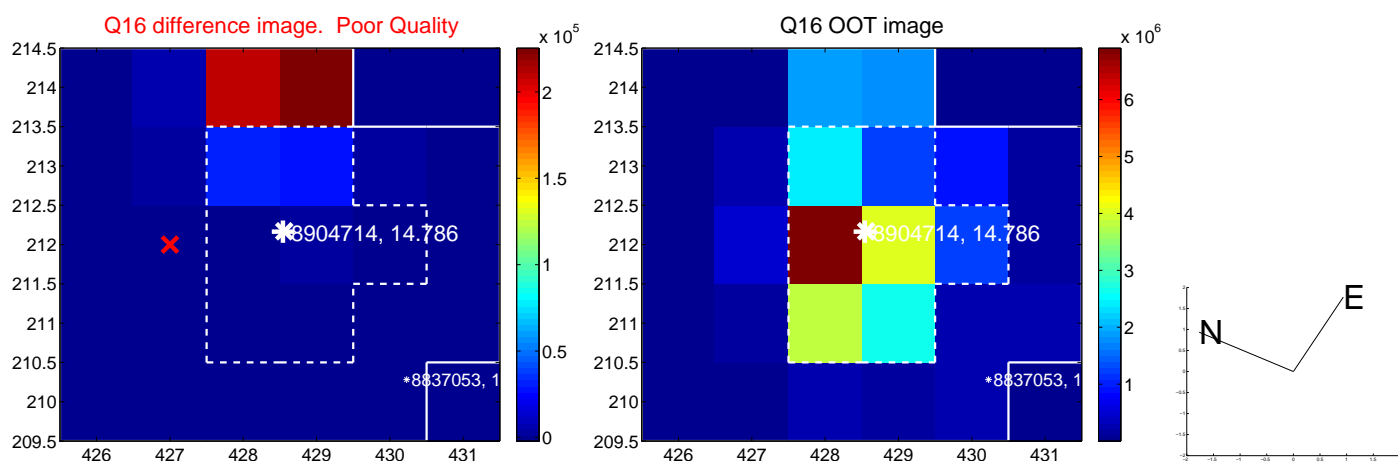
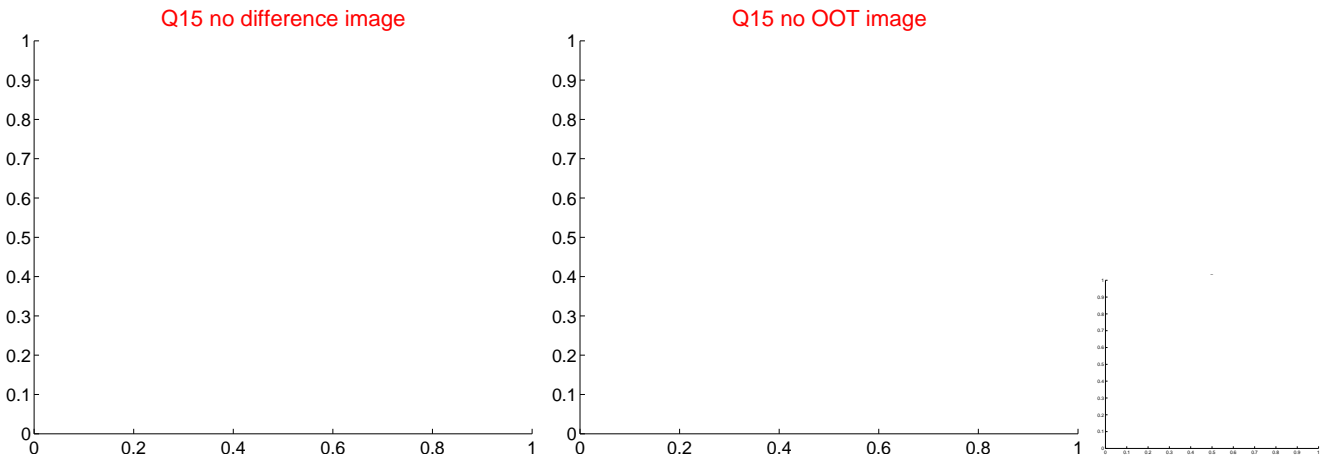
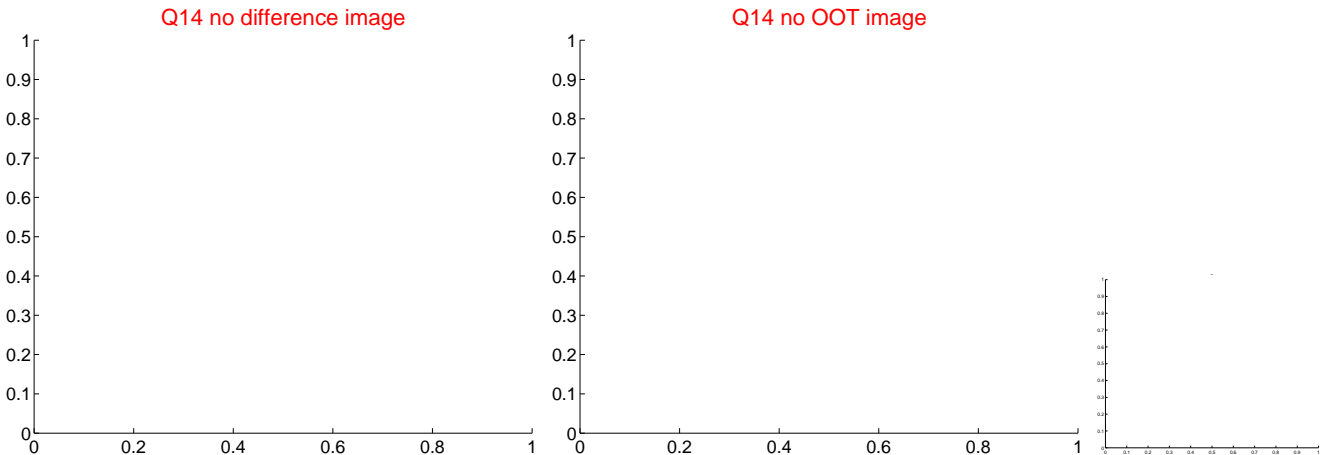
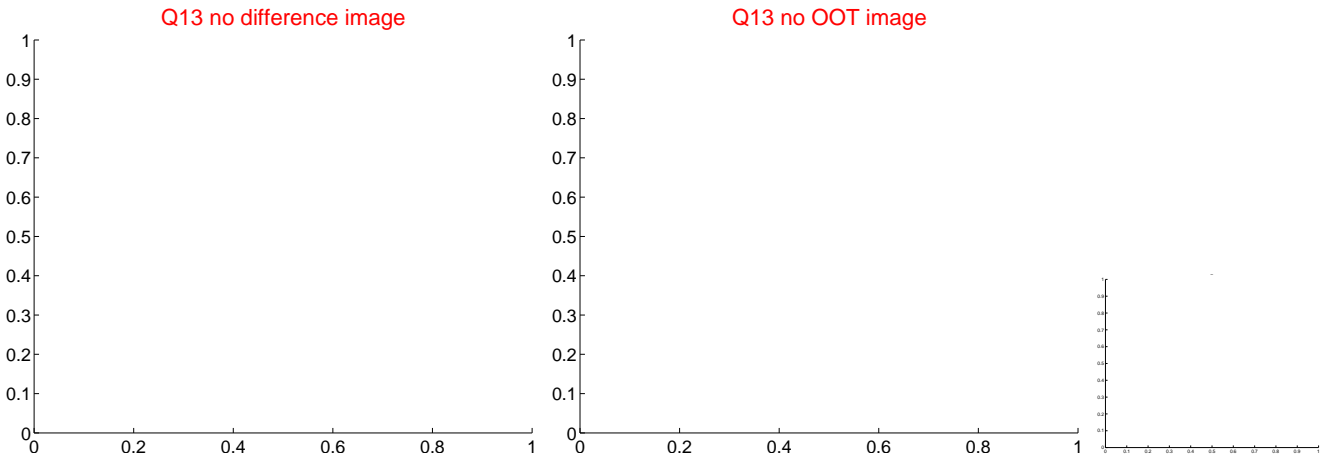




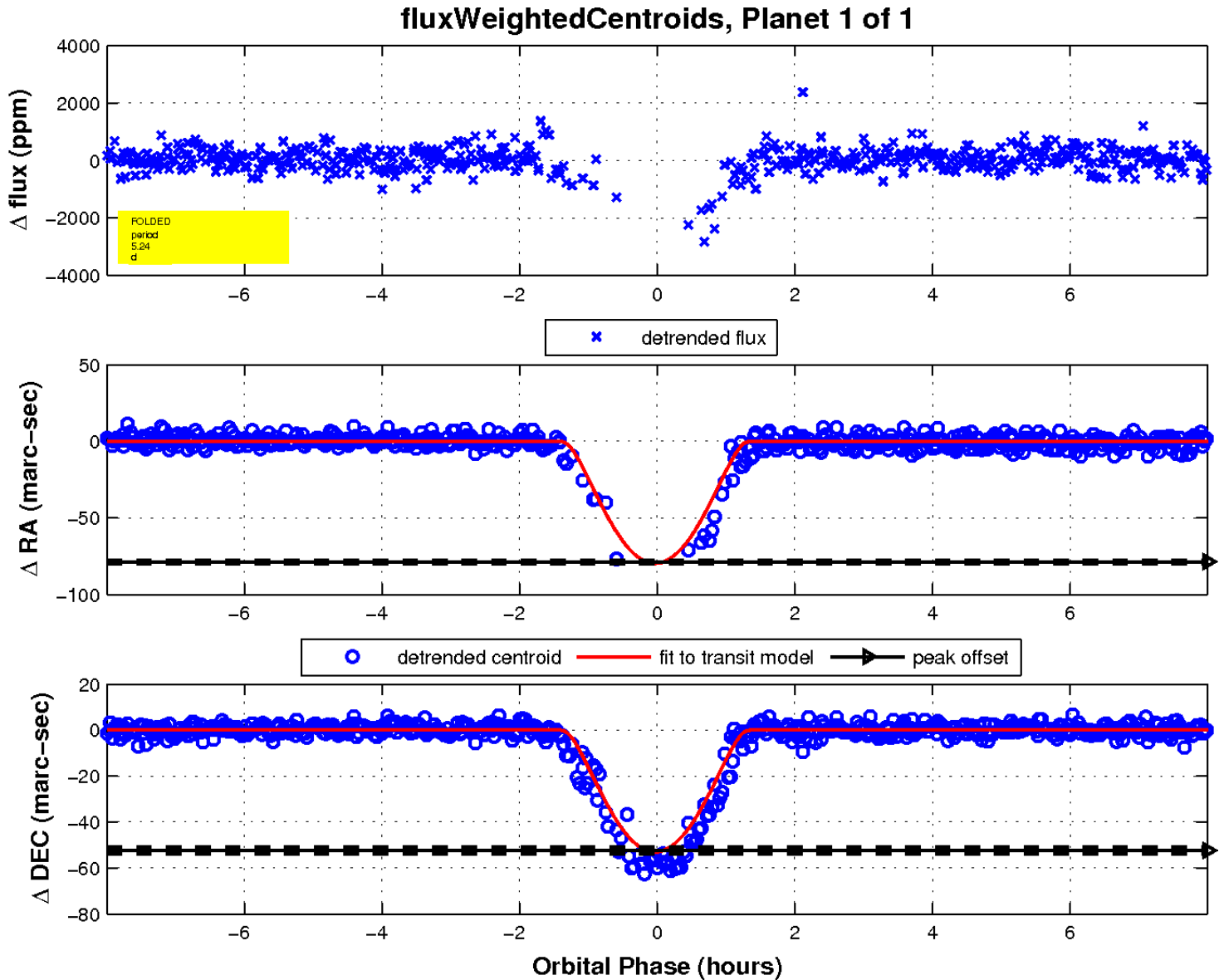
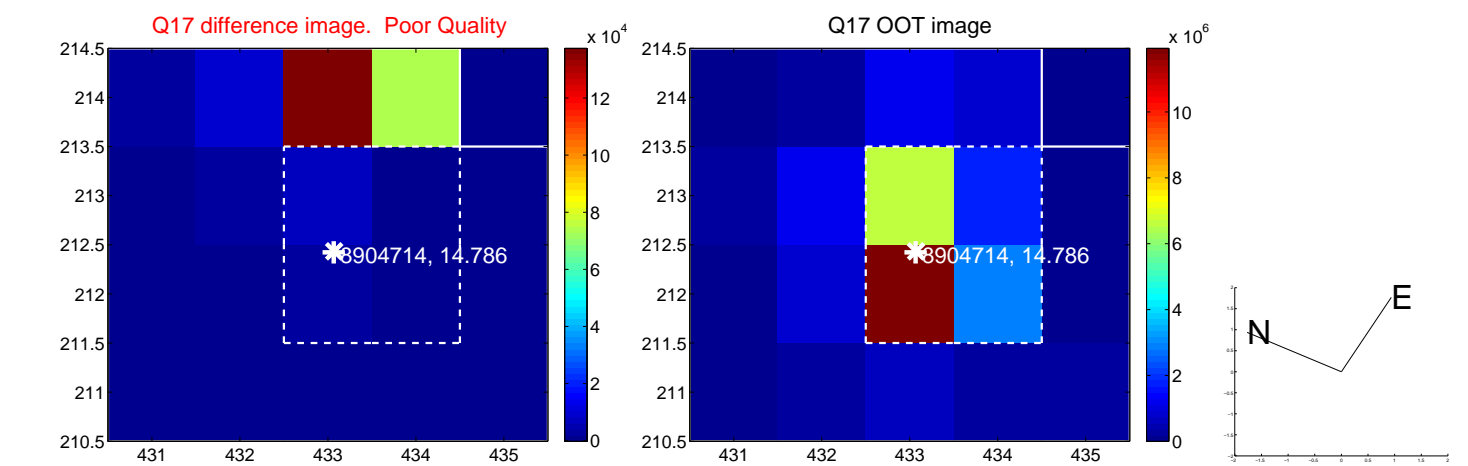
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UKIRT Image

Declination

