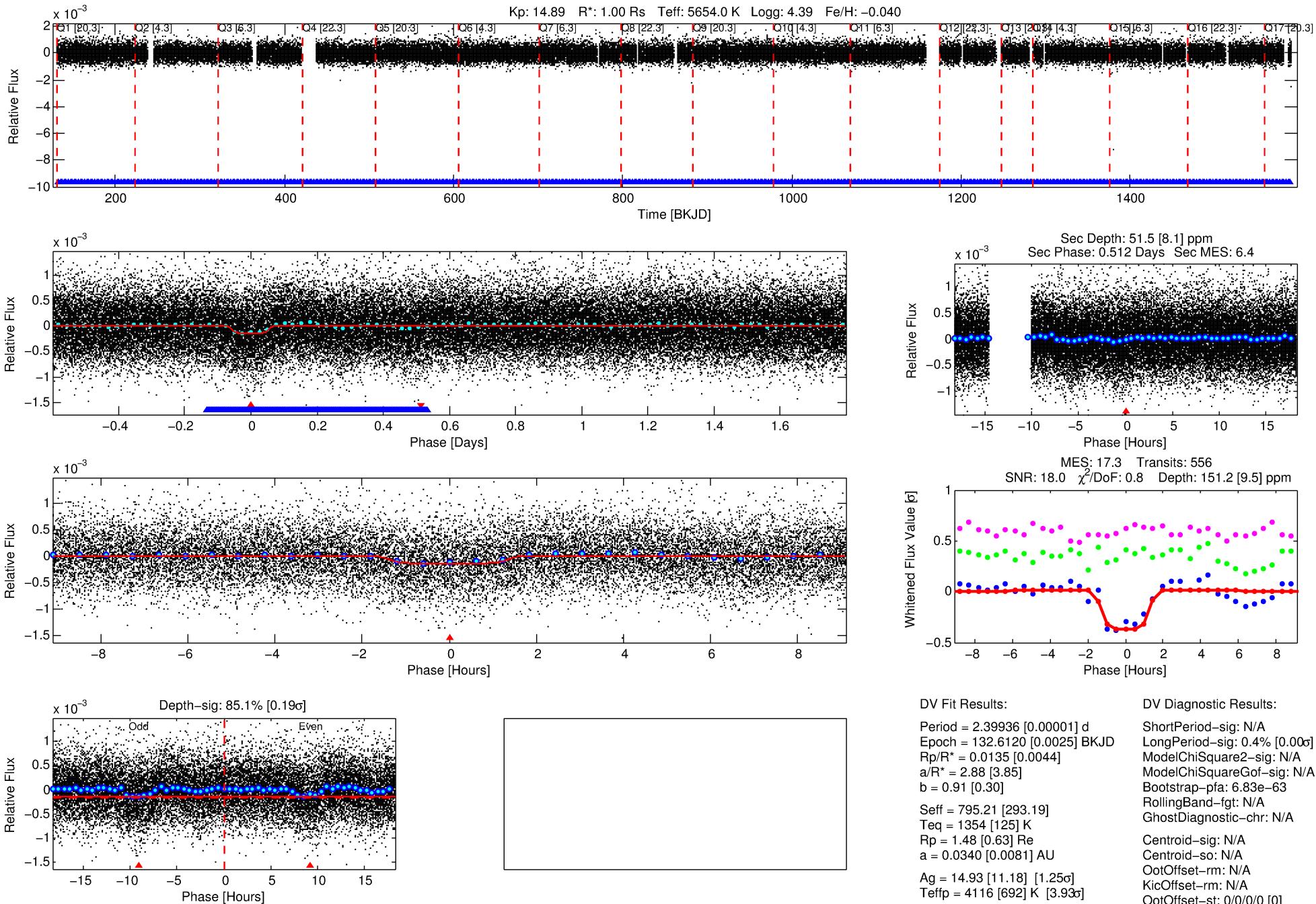


**WARNING: THIS DATA IS  
SIMULATED, NOT OBSERVED**

## DV One-Page Summary

KIC: 5303551 Candidate: 1 of 2 Period: 2.399 d

**WARNING: THIS DATA IS  
SIMULATED, NOT OBSERVED**

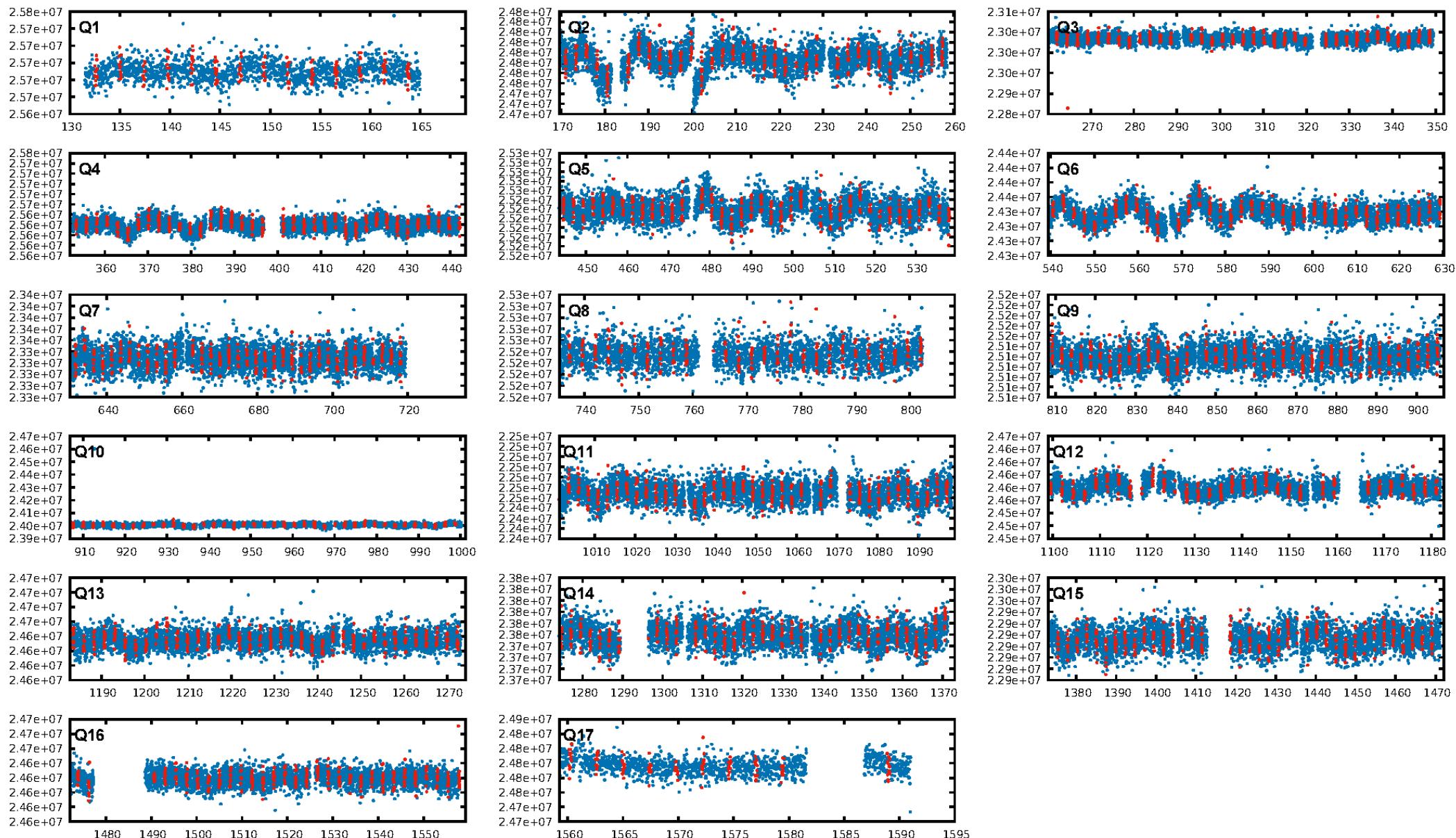


### DV Fit Results:

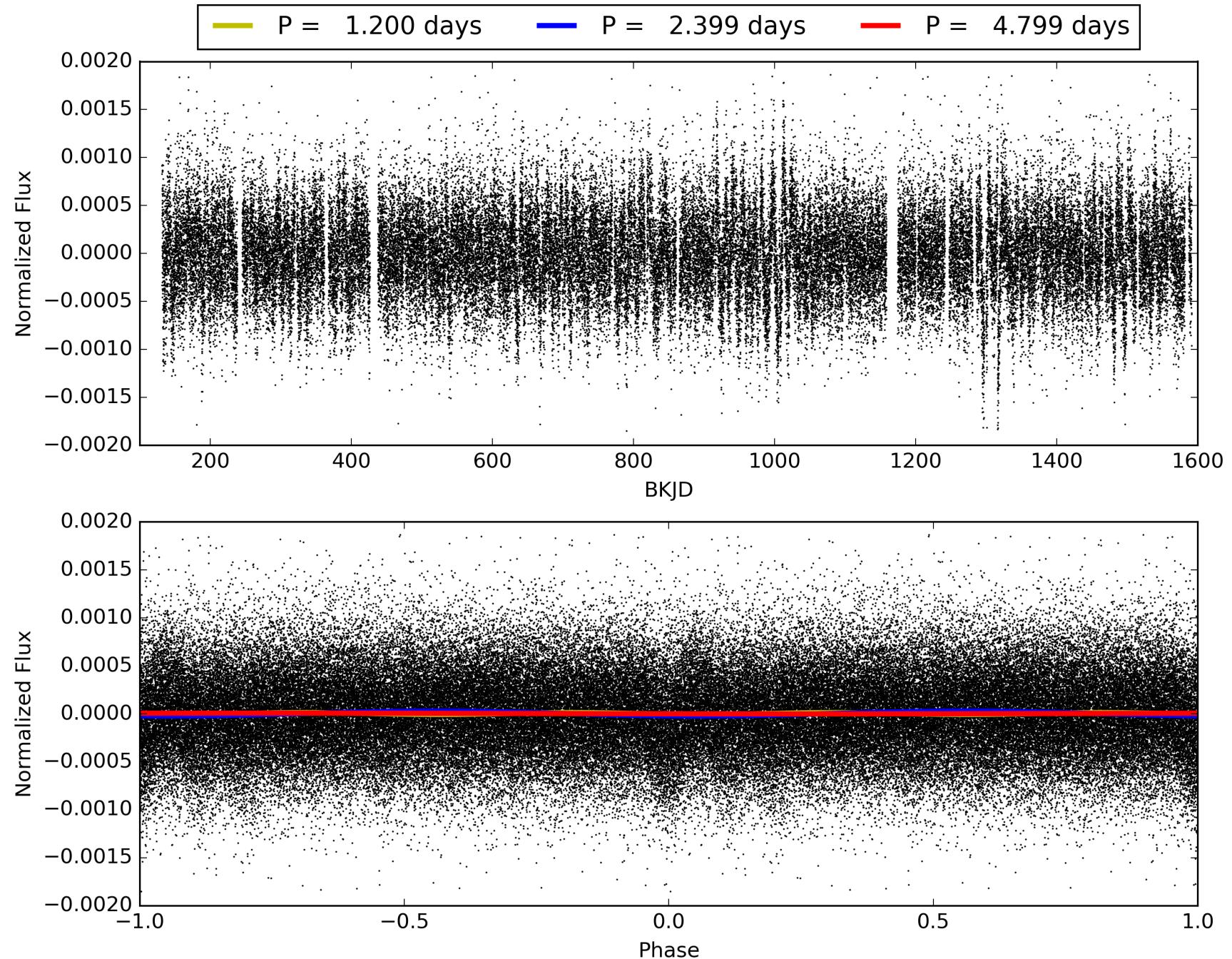
Period = 2.39936 [0.00001] d  
Epoch = 132.6120 [0.0025] BKJD  
 $R_p/R^* = 0.0135$  [0.0044]  
 $a/R^* = 2.88$  [3.85]  
 $b = 0.91$  [0.30]  
 $S_{eff} = 795.21$  [293.19]  
 $T_{eq} = 1354$  [125] K  
 $R_p = 1.48$  [0.63]  $R_E$   
 $a = 0.0340$  [0.0081] AU  
 $A_g = 14.93$  [11.18] [1.25 $\sigma$ ]  
 $T_{eff,p} = 4116$  [692] K [3.93 $\sigma$ ]

**DV Diagnostic Results:**  
ShortPeriod-sig: N/A  
LongPeriod-sig: 0.4% [0.00 $\sigma$ ]  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 6.83e-63  
RollingBand-fgt: N/A  
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 [0]  
KicOffset-st: 0/0/0/0 [0]  
DiffImageQuality-fgm: N/A  
DiffImageOverlap-fno: N/A

# TCE 005303551-01, PDC Light Curves

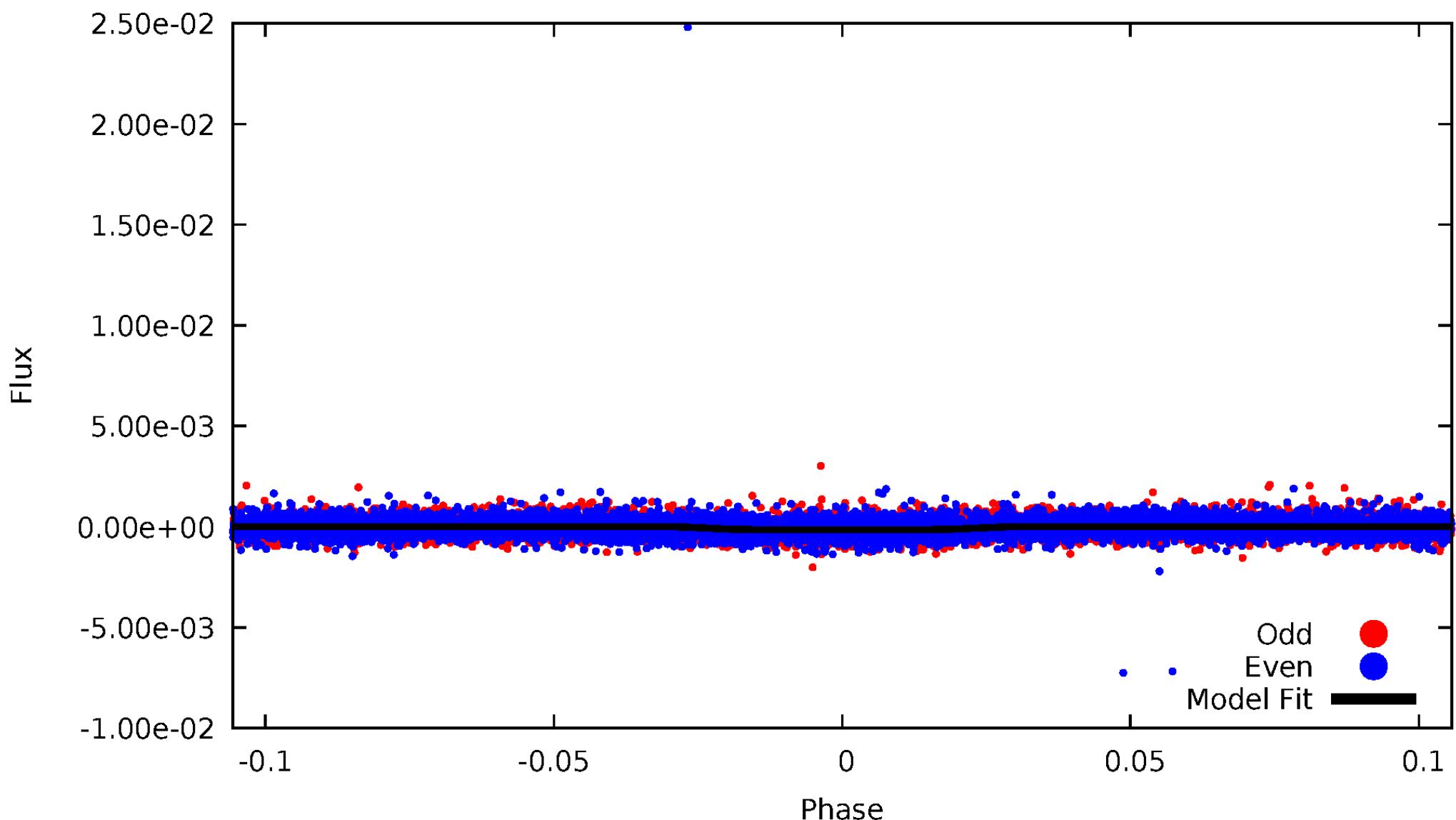


# TCE 005303551-01



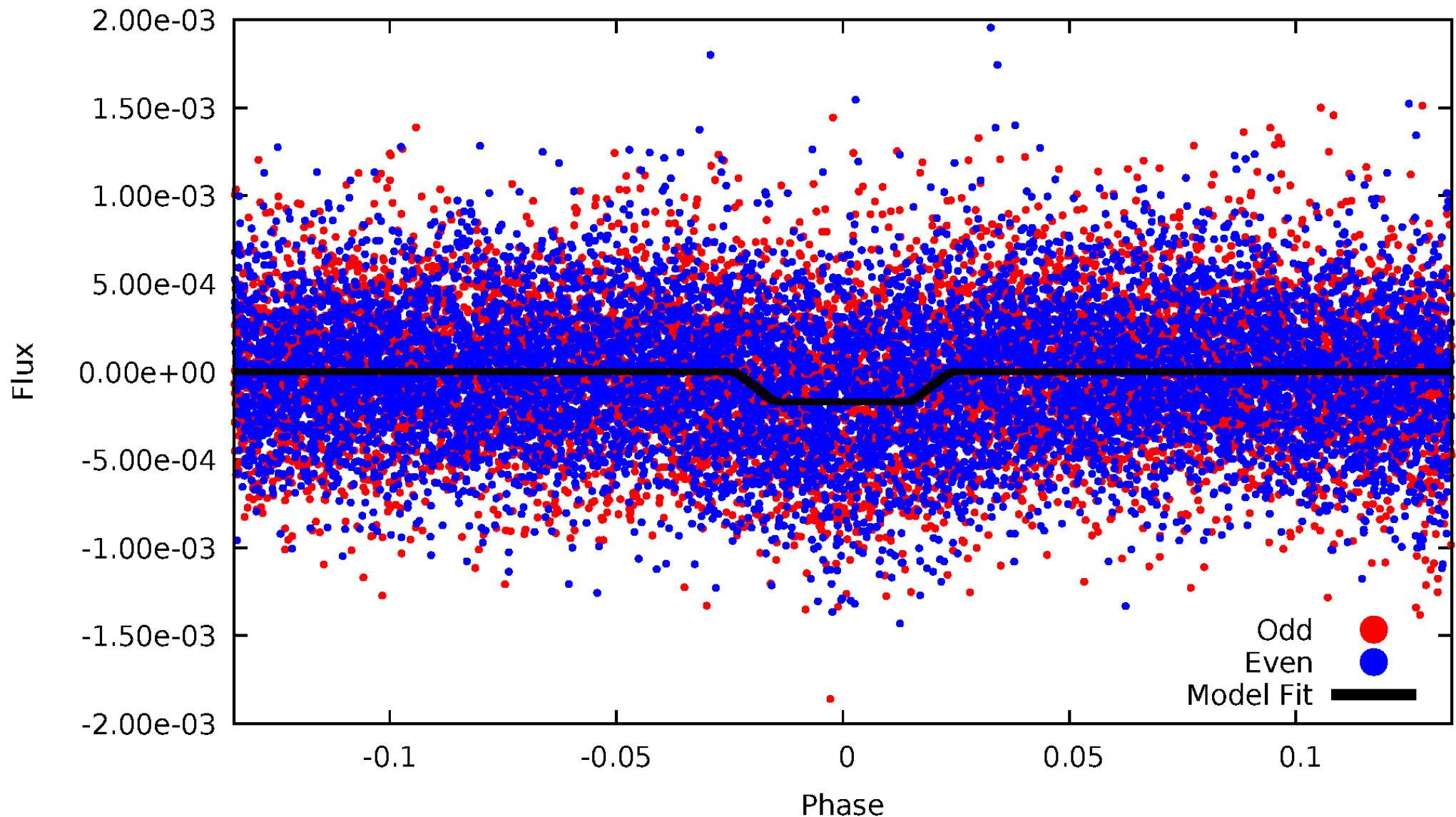
## DV Odd/Even

TCE 005303551-01

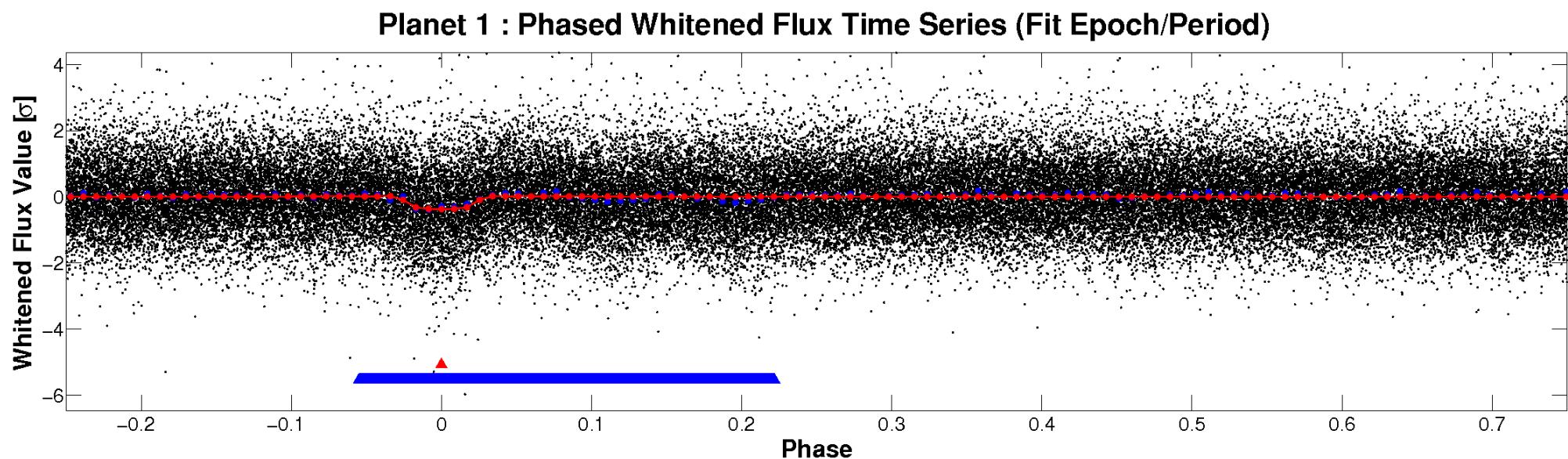
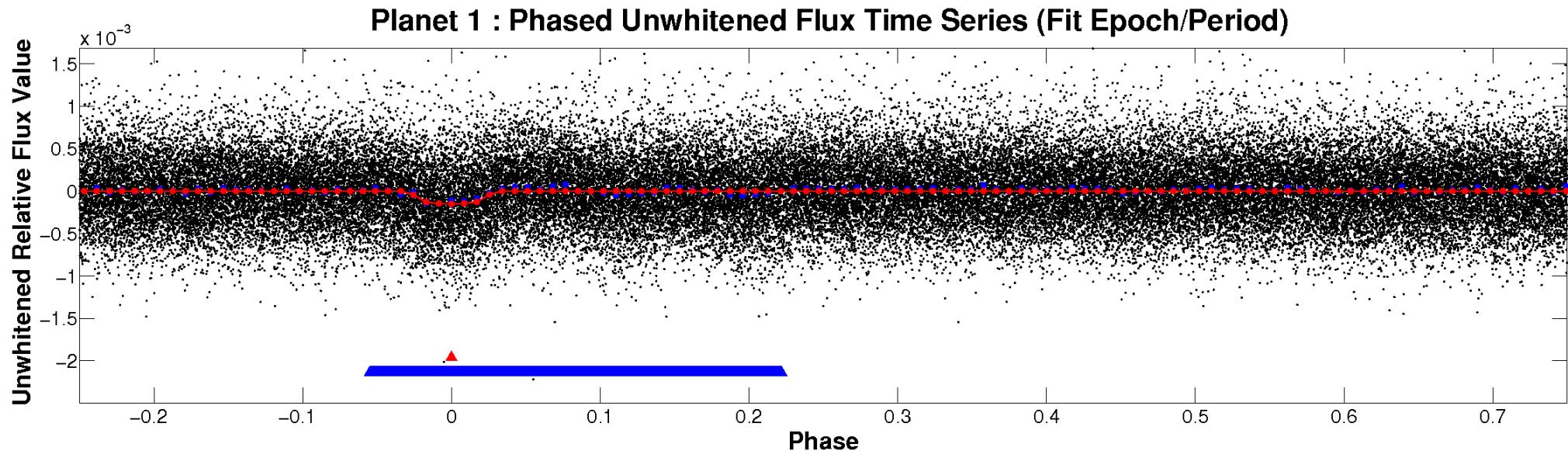


# ALT Odd/Even

TCE 005303551-01

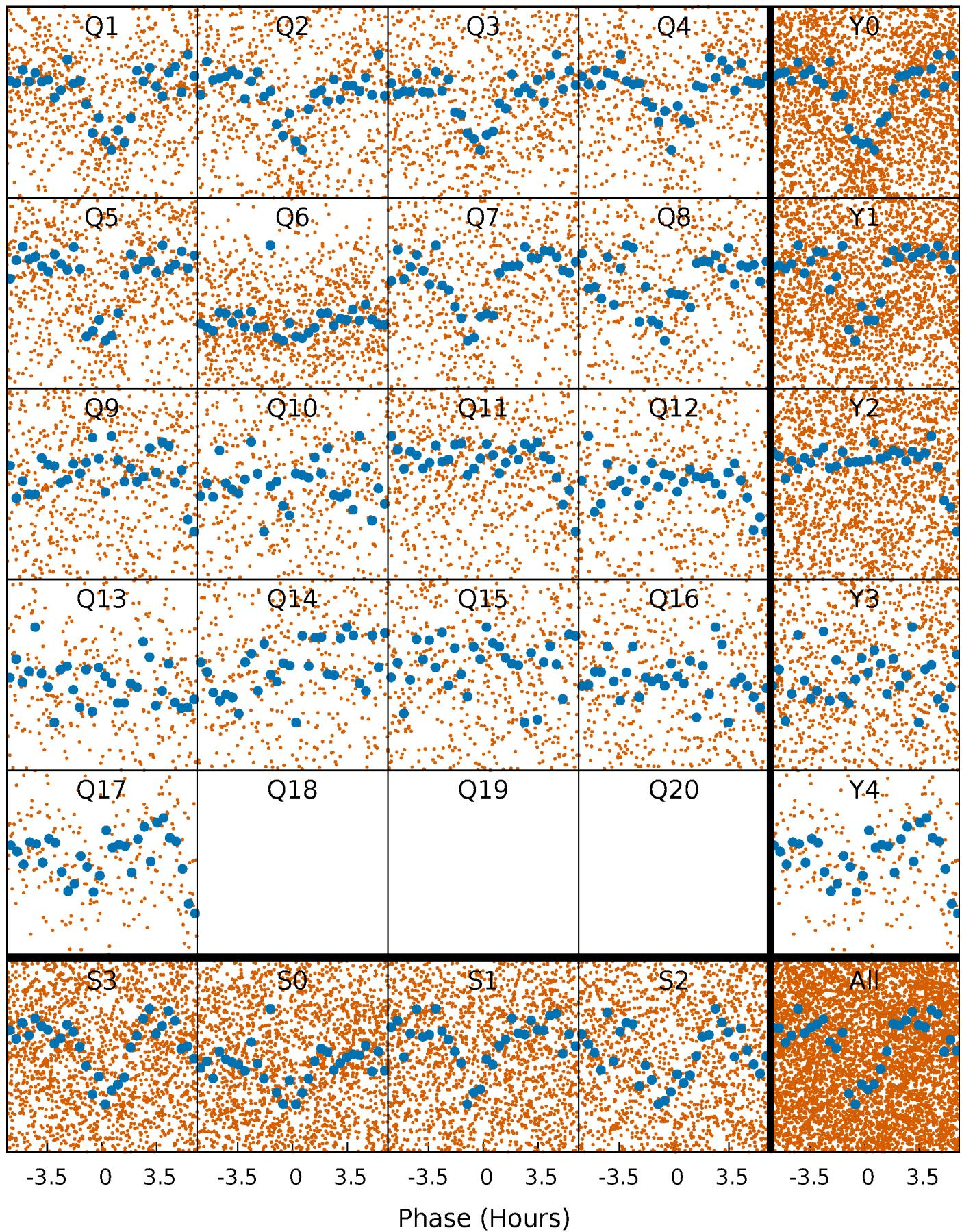


# Non-Whitened Vs. Whitened Light Curve



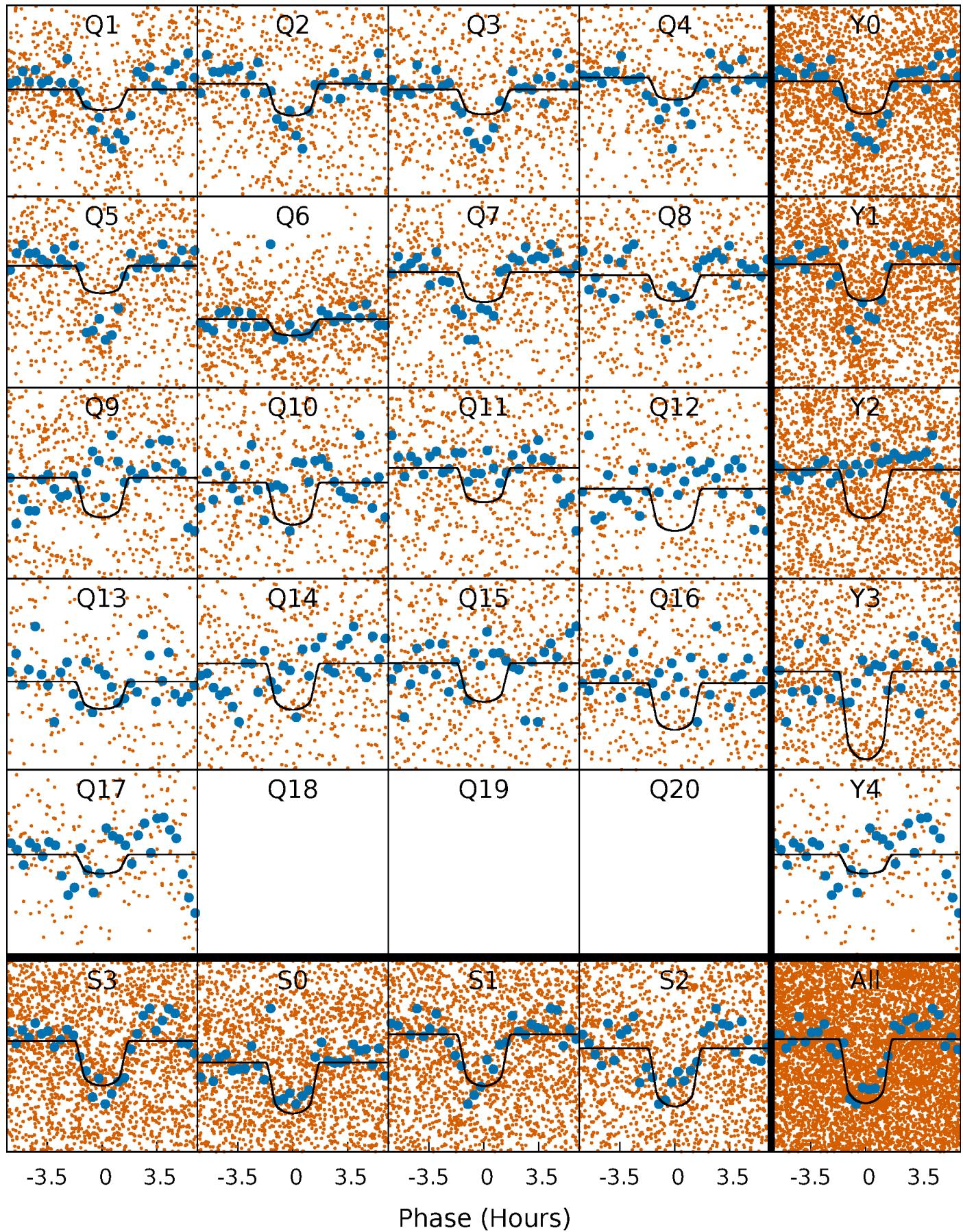
# PDC Quarter-Phased Transit Curves

TCE 005303551-01 P= 2.399358 Days  $T_0=132.612034$  (BKJD)



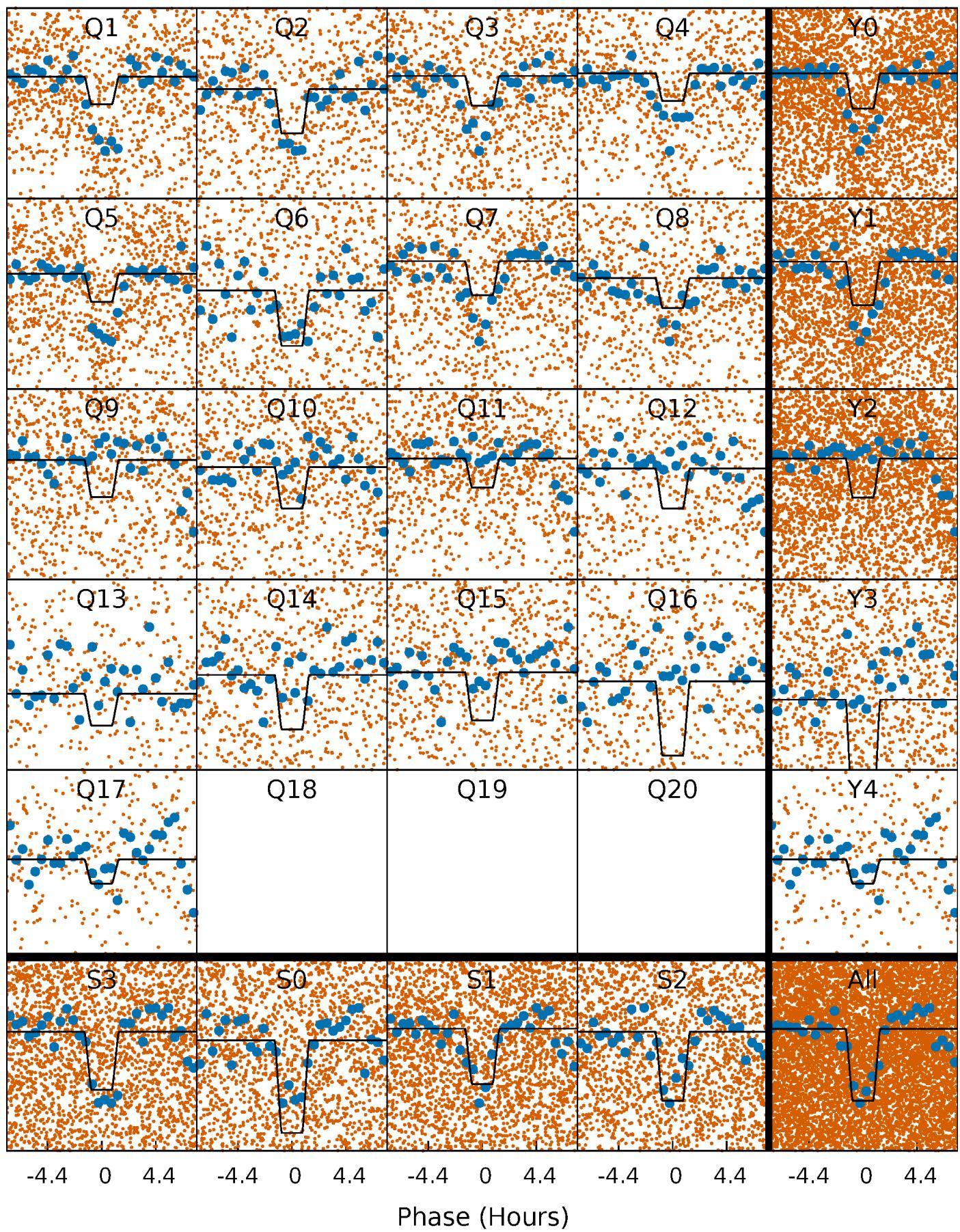
# DV Quarter-Phased Transit Curves

TCE 005303551-01   P= 2.399358 Days    $T_0=132.612034$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

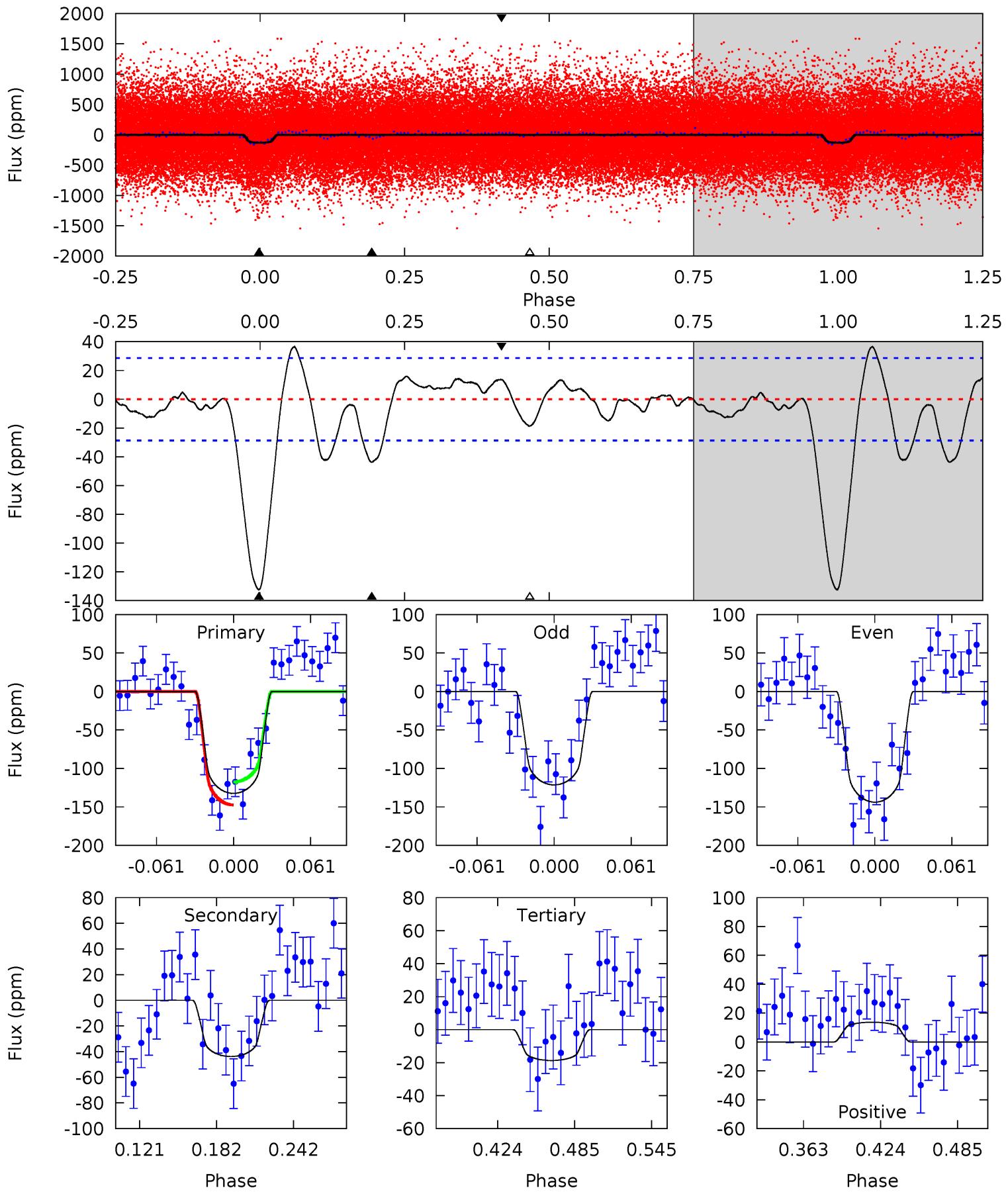
TCE 005303551-01 P= 2.399226 Days  $T_0=132.624771$  (BKJD)



# DV Model-Shift Uniqueness Test

005303551-01,  $P = 2.399358$  Days,  $E = 130.212676$  Days

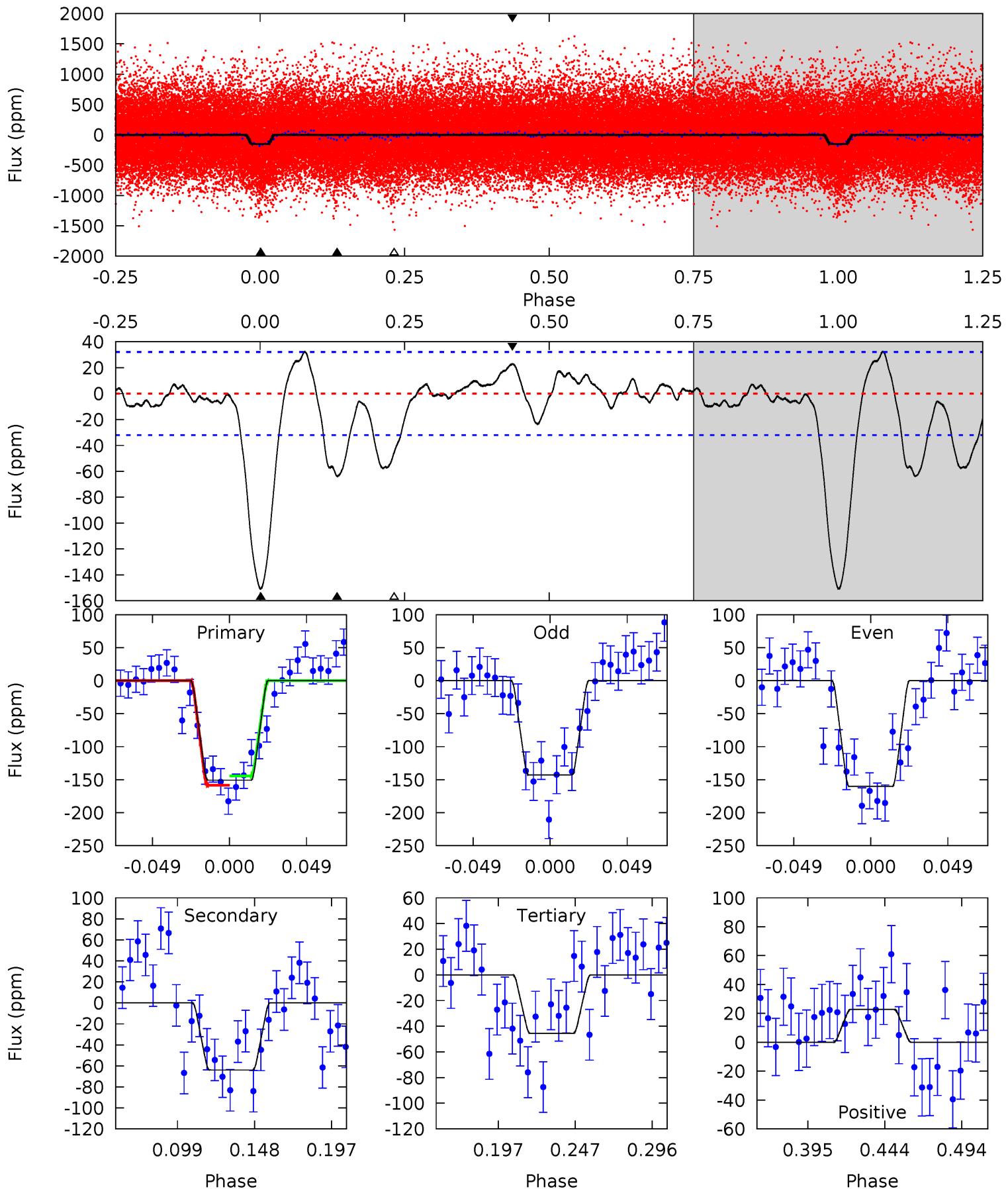
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
21.6	7.13	3.05	2.23	4.67	1.88	1.99	18.5	19.3	4.08	4.90	1.83	1.04	0.22	2.44



# Alt Model-Shift Uniqueness Test

005303551-01,  $P = 2.399226$  Days,  $E = 130.225545$  Days

Pri	Sec	Ter	Pos	$FA_1$	$FA_2$	$F_{\text{Red}}$	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
22.1	9.38	6.69	3.35	4.71	1.97	2.30	15.4	18.8	2.69	6.03	1.28	1.07	0.18	1.04



## Stellar Parameters For KIC 005303551

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R(R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5654^{+169}_{-169}$	$4.395^{+0.128}_{-0.192}$	$-0.040^{+0.300}_{-0.300}$	$1.001^{+0.280}_{-0.151}$	$0.908^{+0.114}_{-0.085}$	$1.275^{+0.716}_{-0.618}$
	$+3\%/-3\%$	$+3\%/-4\%$	$+750\%/-750\%$	$+28\%/-15\%$	$+13\%/-9\%$	$+56\%/-48\%$
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 005303551-01 / KOI 0553.01

Detrend	Depth (ppm)	$R_p(R_{\oplus})$	$T_{max}$ (K)	$T_{obs}$ (K)	$A_{obs}$
DV	$-44 \pm 6$	$1.47^{+0.56}_{-0.53}$	$1905^{+128}_{-109}$	$4198^{+806}_{-444}$	$13^{+19}_{-6}$
Alt.	$-64 \pm 7$	$1.47^{+0.53}_{-0.51}$	$1907^{+134}_{-118}$	$4552^{+867}_{-497}$	$19^{+25}_{-9}$

$T_{max}$  = Theoretical Maximum Planetary Temperature

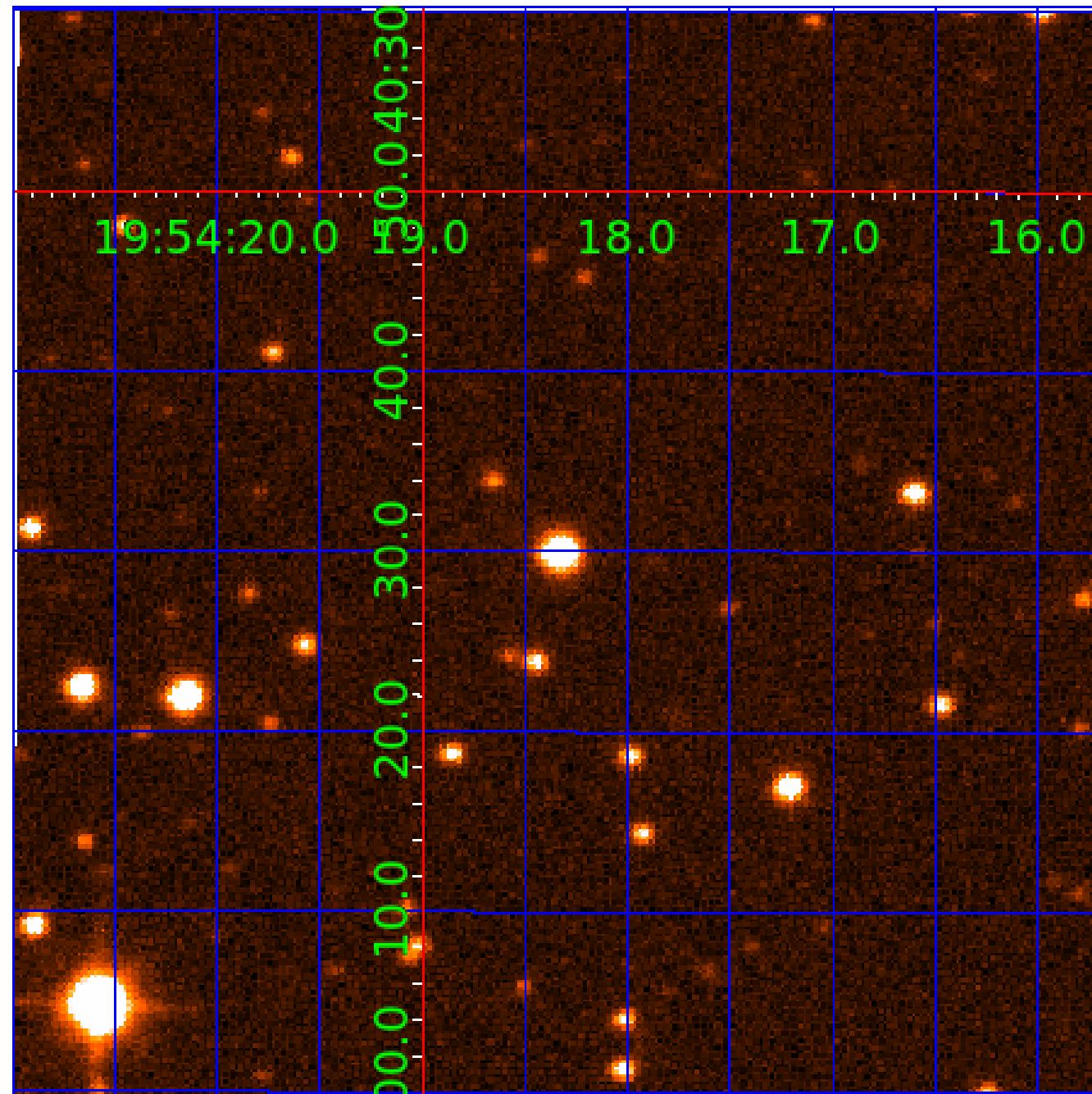
$T_{obs}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )

$A_{obs}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{obs} \gg T_{max}$  AND  $A_{obs} \gg 1.0$

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Declination



# KIC 005303551

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_*$ ( $R_\odot$ )	$T_*$ (K)	$R_p$ ( $R_\oplus$ )	$S_p$ ( $S_\oplus$ )
005303551-01	SCR	No	2.399358	132.612035	151.2	3.042	17.3	18.0	1.00	5654	1.48	795.21
005303551-02	SCR	No	2.400452	132.480288	137.3	4.808	13.7	14.5	1.00	5654	1.41	794.72

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
005303551-01	SCR	FP	0.07	1	0	0	0	LPP_DV
005303551-02	SCR	FP	0.00	1	0	0	0	TRANS_GAPPED—SAME_NTL_PERIOD

**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 005303551-02

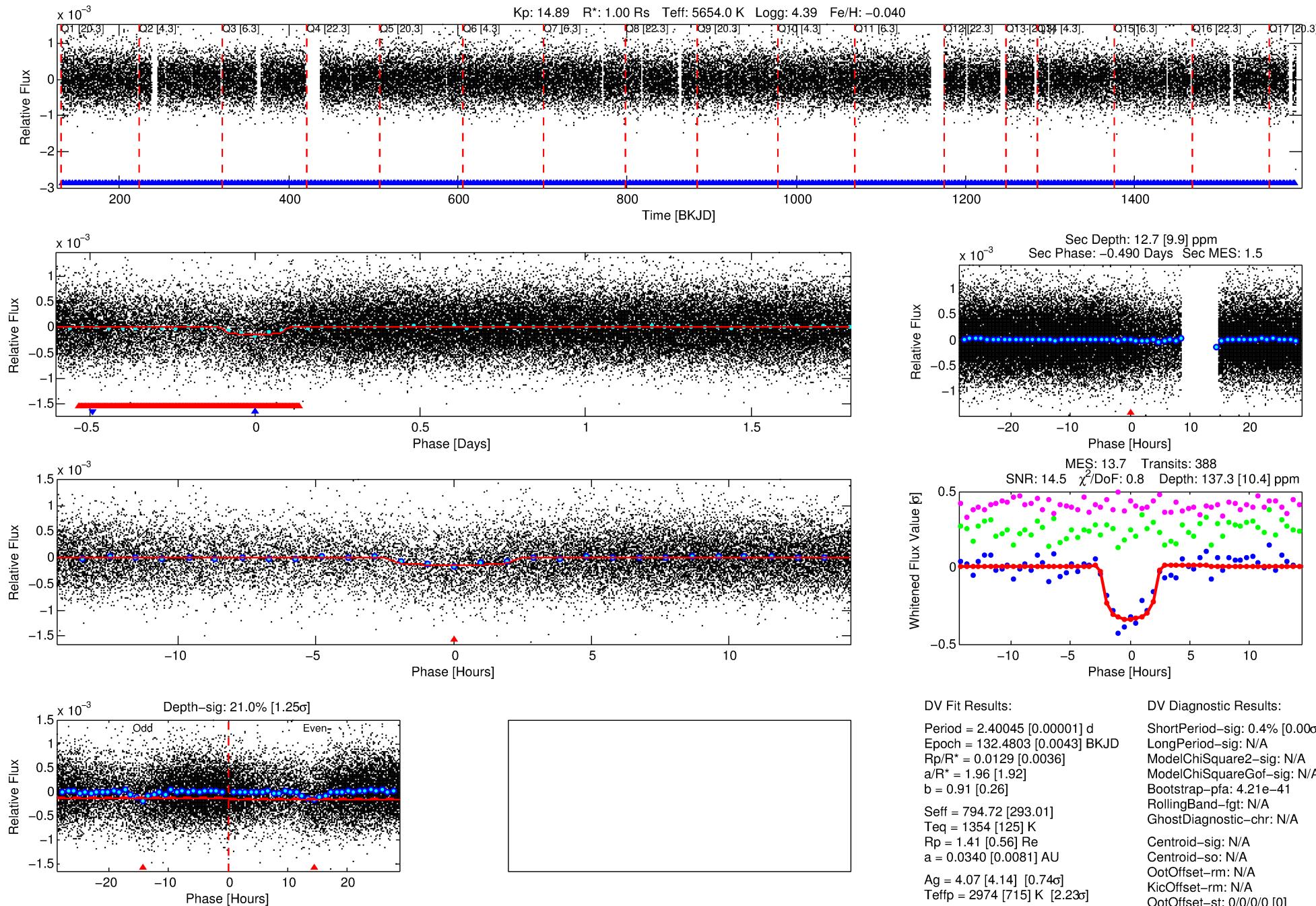
No Significant Match Found

**WARNING: THIS DATA IS  
SIMULATED, NOT OBSERVED**

## DV One-Page Summary

KIC: 5303551 Candidate: 2 of 2 Period: 2.400 d

**WARNING: THIS DATA IS  
SIMULATED, NOT OBSERVED**

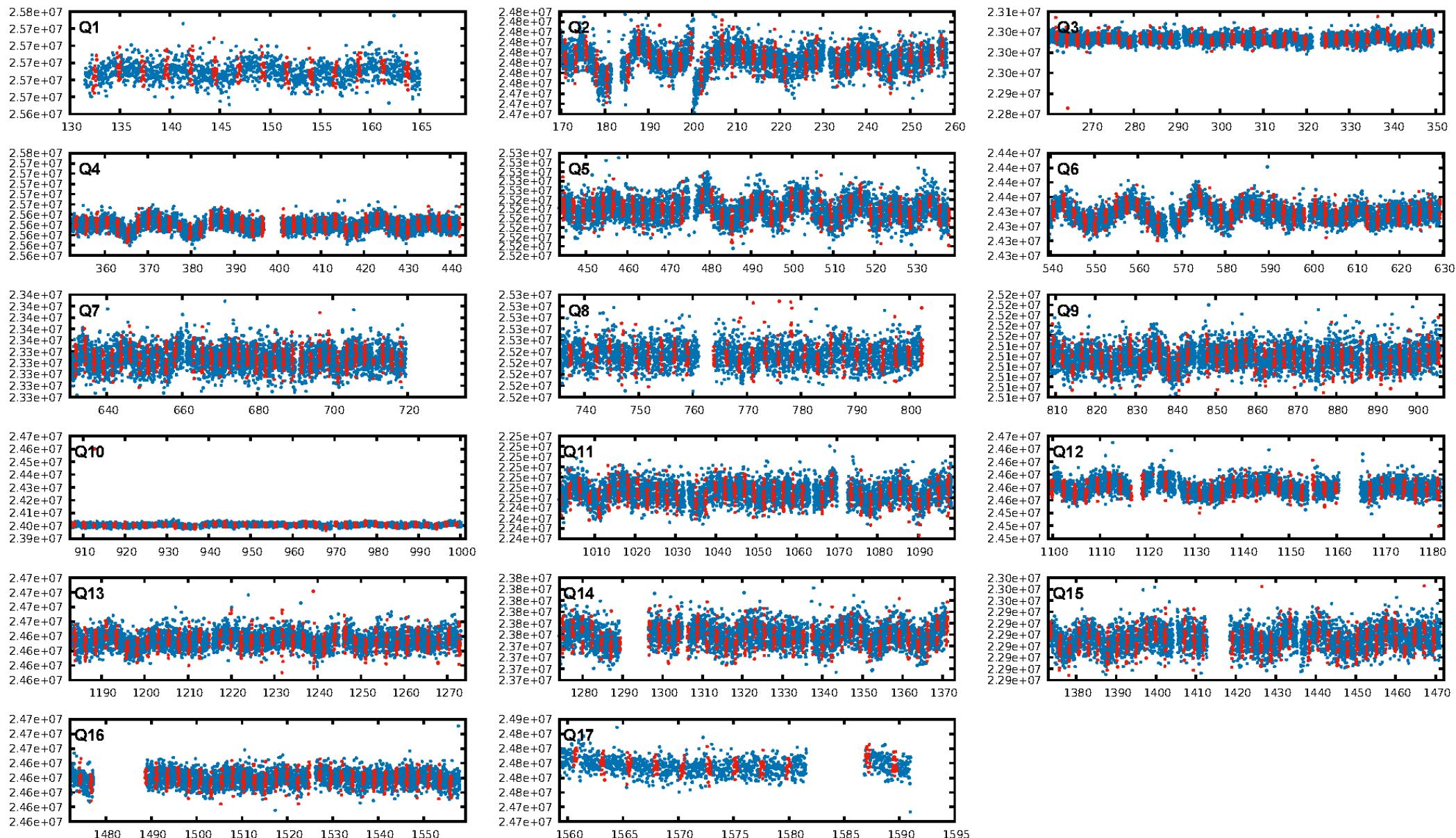


### DV Fit Results:

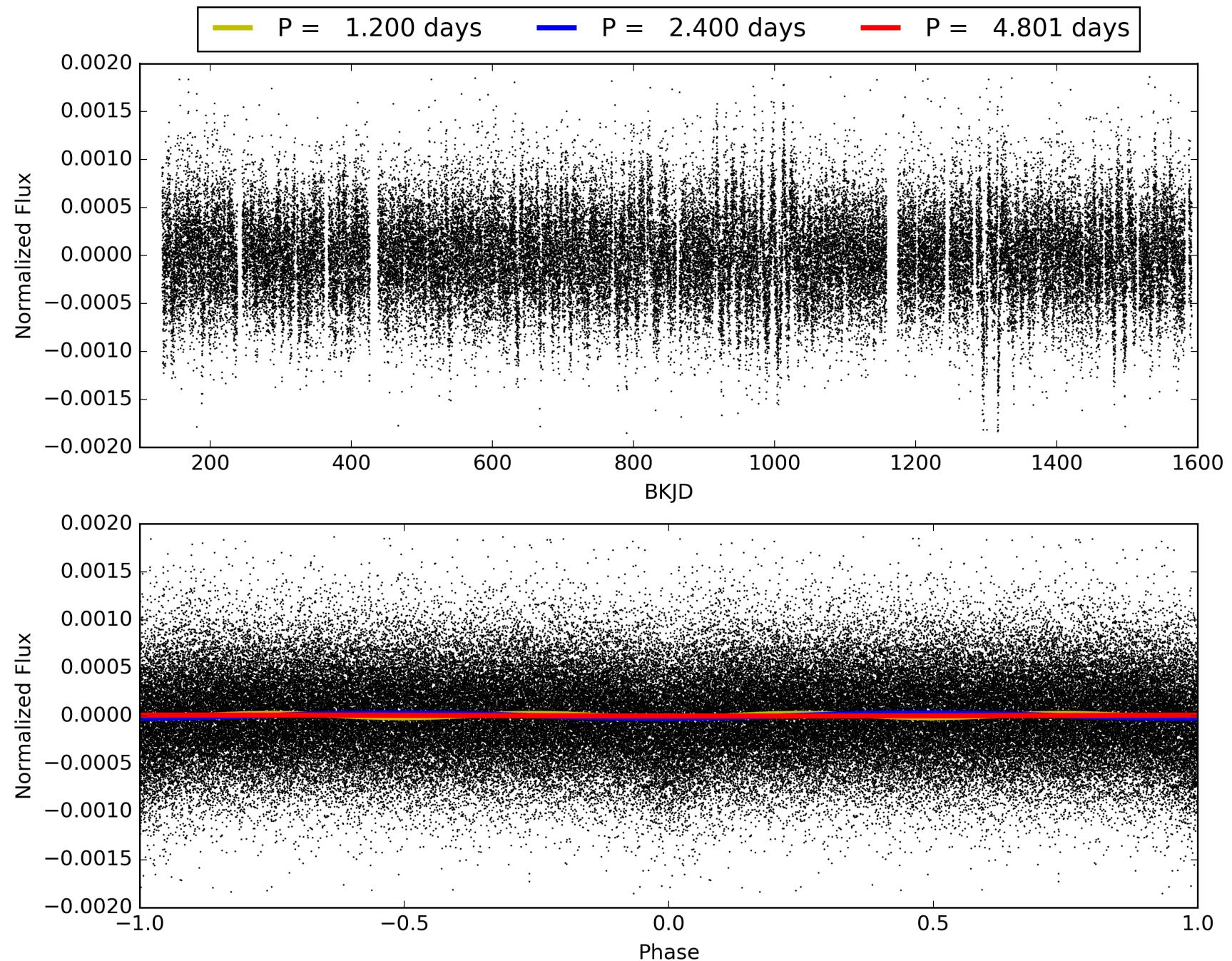
Period = 2.40045 [0.00001] d  
Epoch = 132.4803 [0.0043] BKJD  
Rp/R\* = 0.0129 [0.0036]  
a/R\* = 1.96 [1.92]  
b = 0.91 [0.26]  
Seff = 794.72 [293.01]  
Teq = 1354 [125] K  
Rp = 1.41 [0.56] Re  
a = 0.0340 [0.0081] AU  
Ag = 4.07 [4.14] [0.74 $\sigma$ ]  
Teffp = 2974 [715] K [2.23 $\sigma$ ]

DV Diagnostic Results:  
ShortPeriod-sig: 0.4% [0.00 $\sigma$ ]  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: 4.21e-41  
RollingBand-fgt: N/A  
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: N/A

# TCE 005303551-02, PDC Light Curves

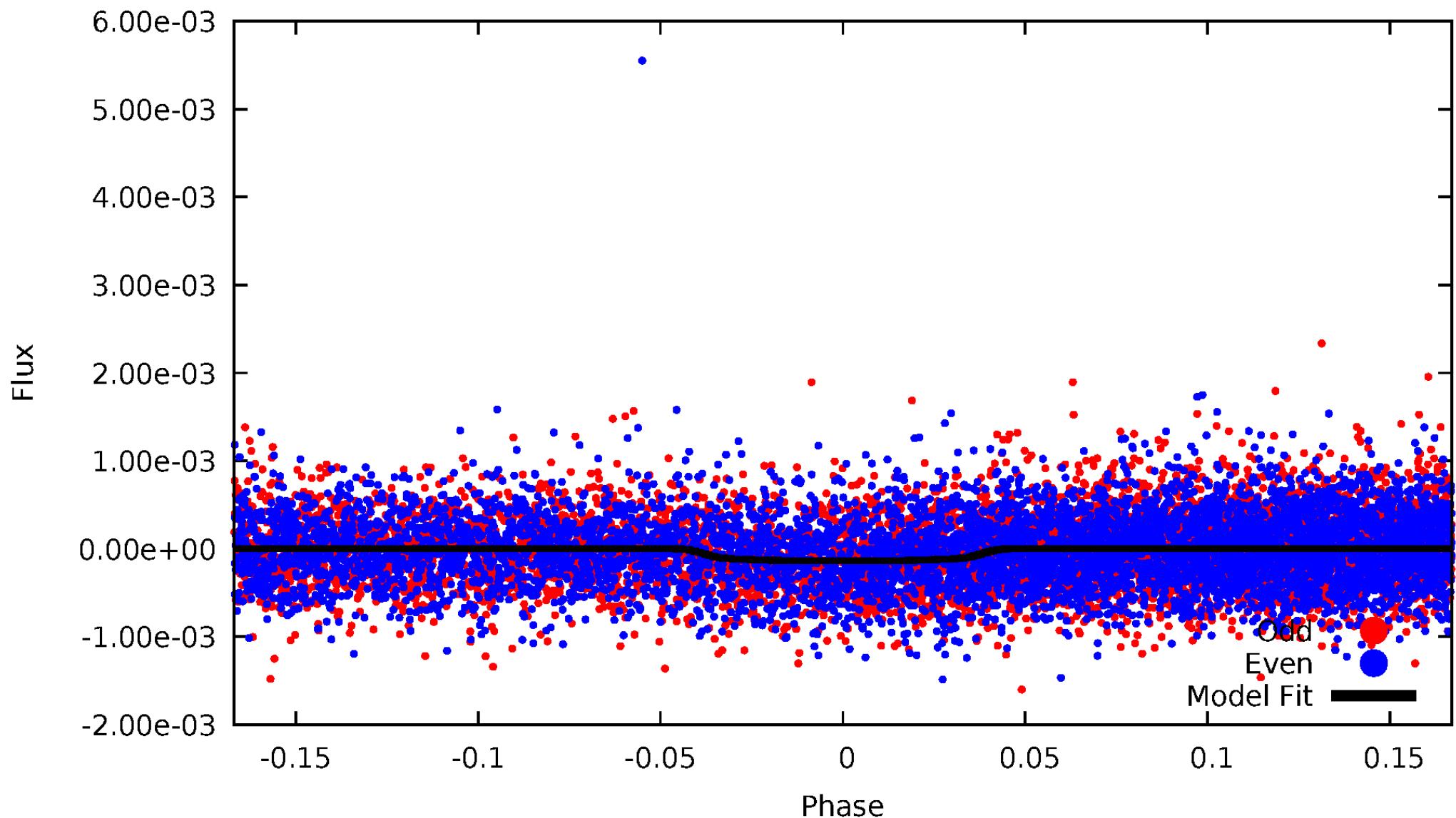


# TCE 005303551-02



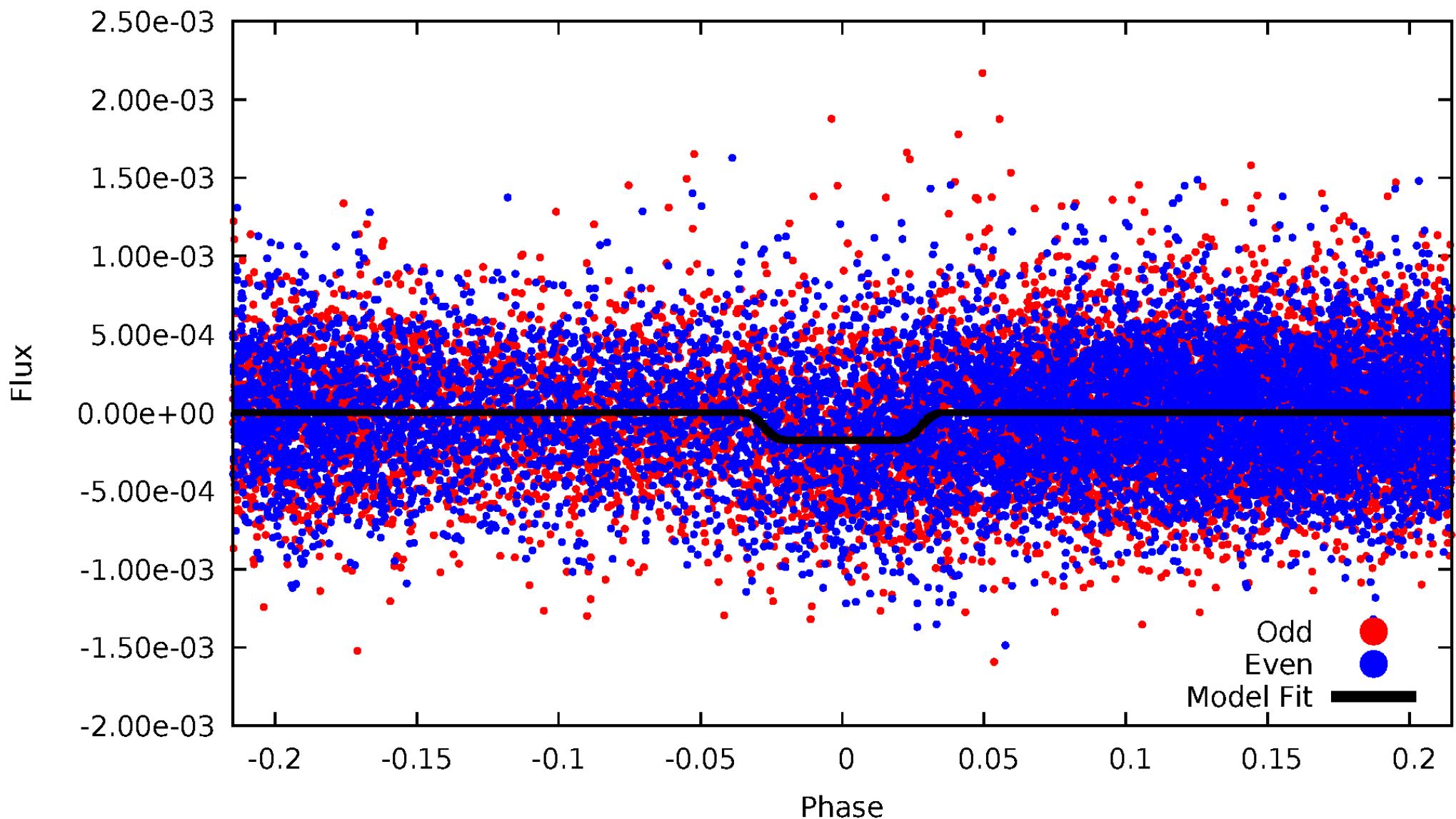
# DV Odd/Even

TCE 005303551-02

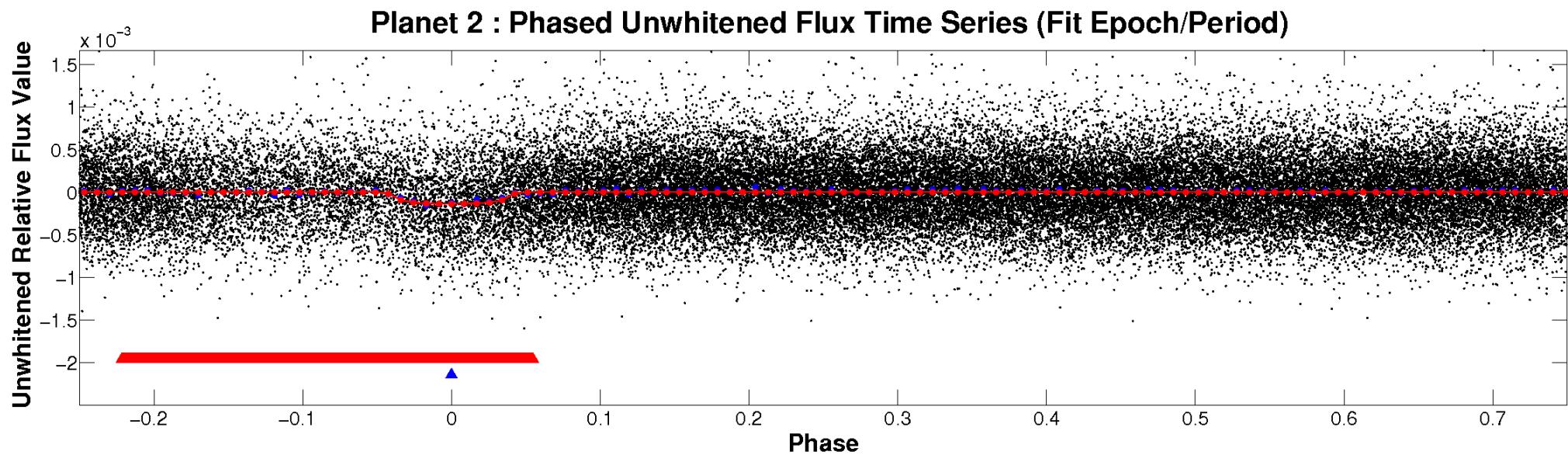


# ALT Odd/Even

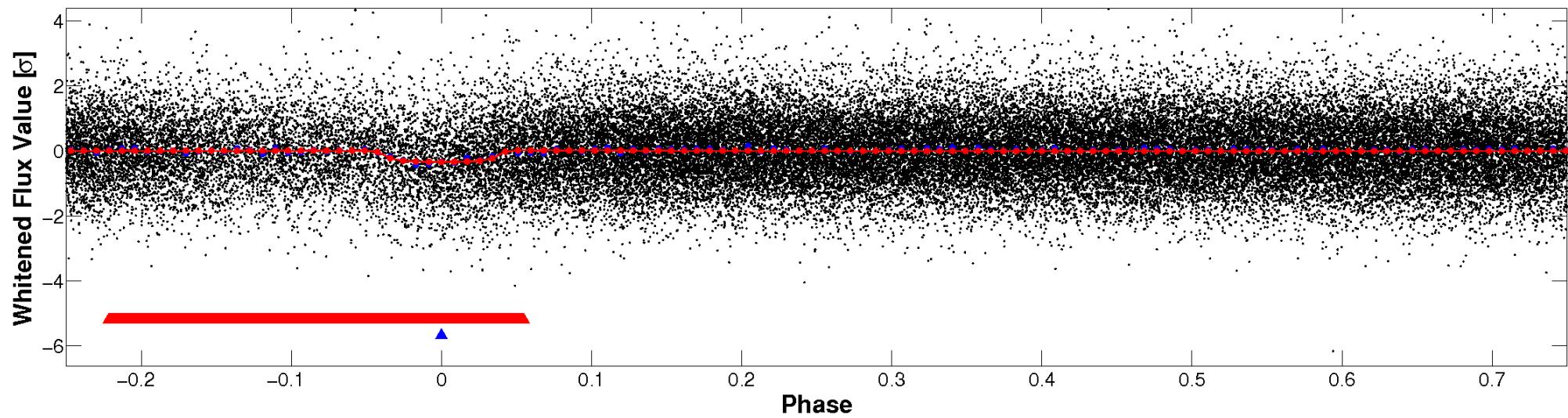
TCE 005303551-02



# Non-Whitened Vs. Whitened Light Curve

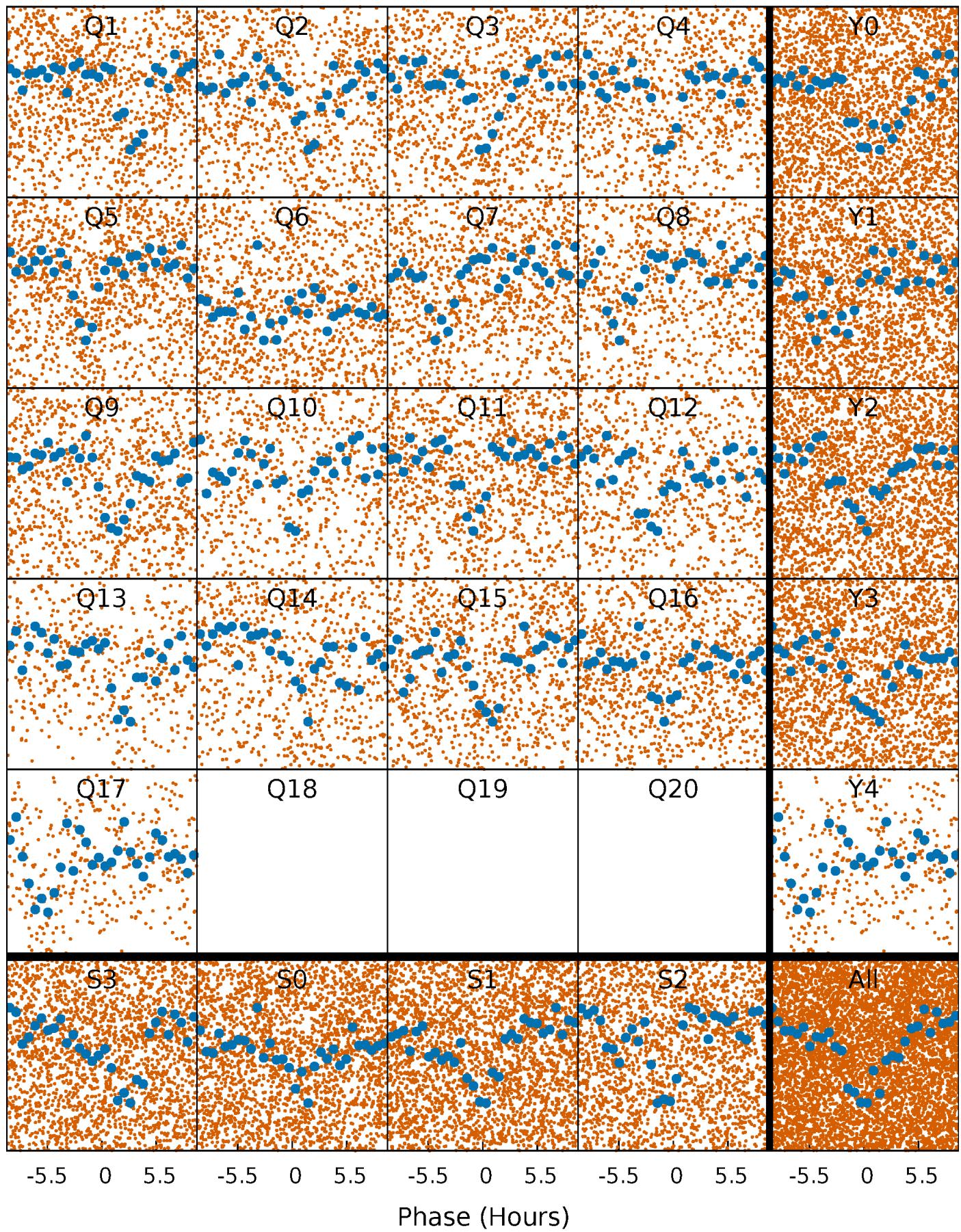


**Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



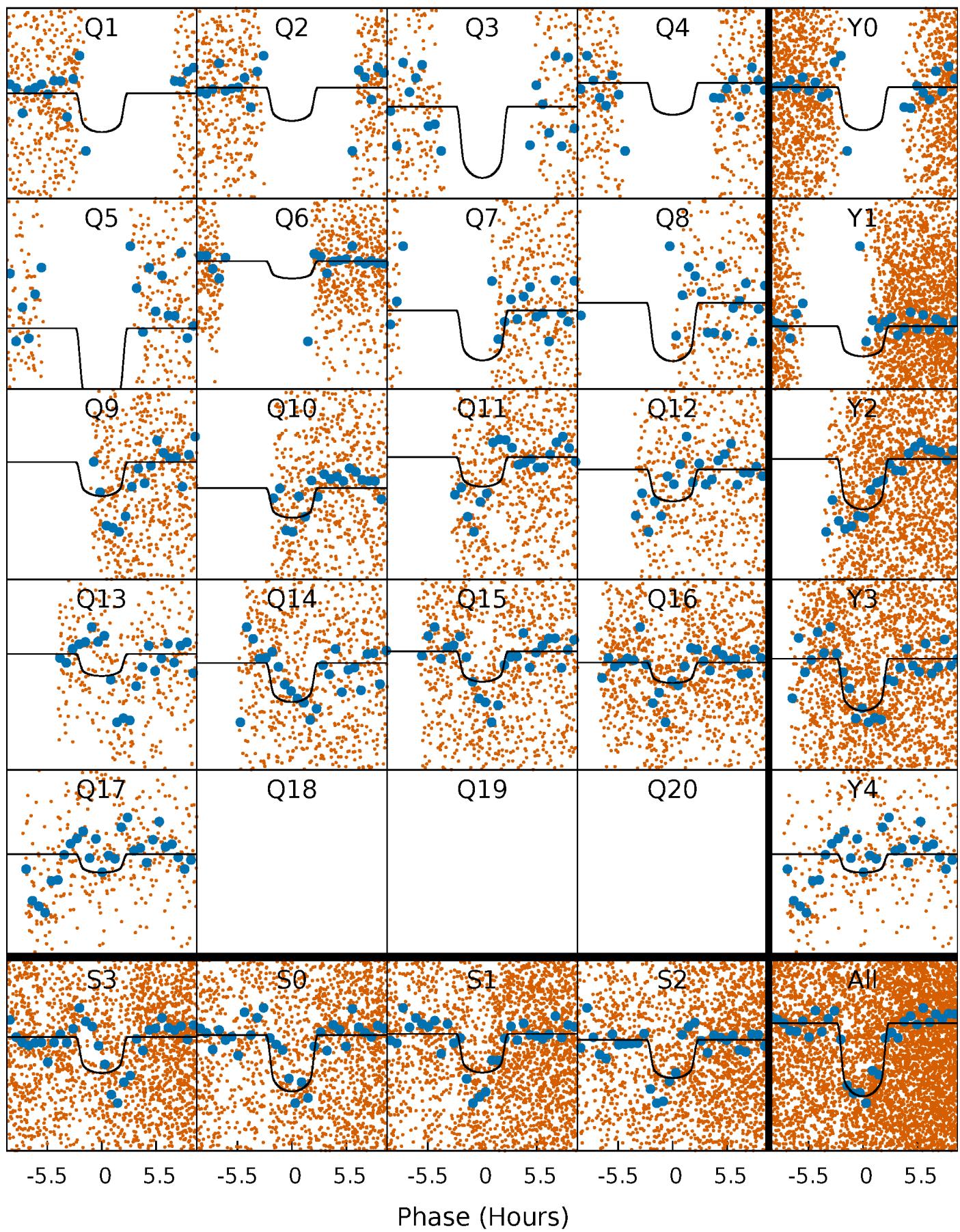
# PDC Quarter-Phased Transit Curves

TCE 005303551-02   P= 2.400452 Days    $T_0=132.480288$  (BKJD)



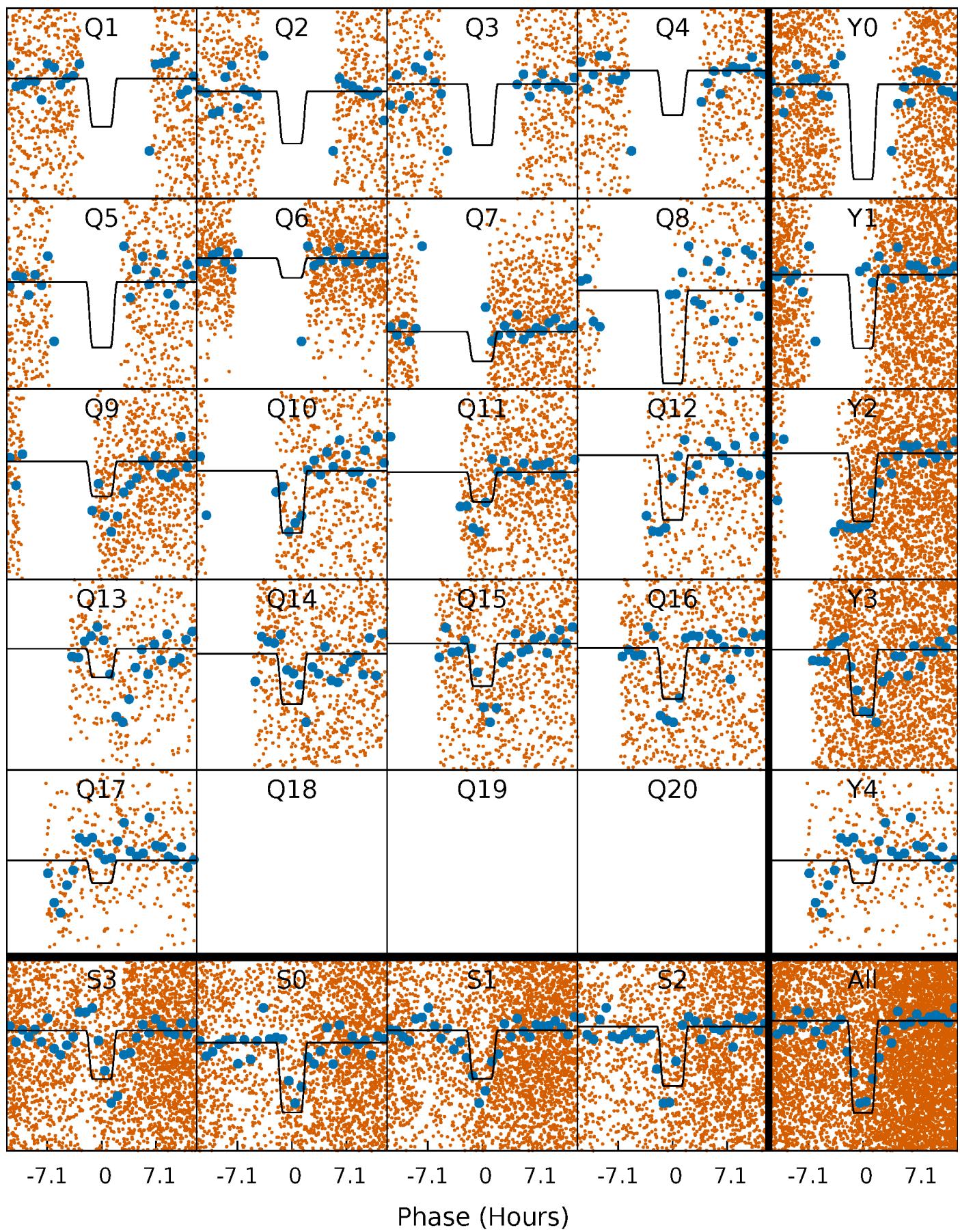
# DV Quarter-Phased Transit Curves

TCE 005303551-02 P= 2.400452 Days  $T_0=132.480288$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

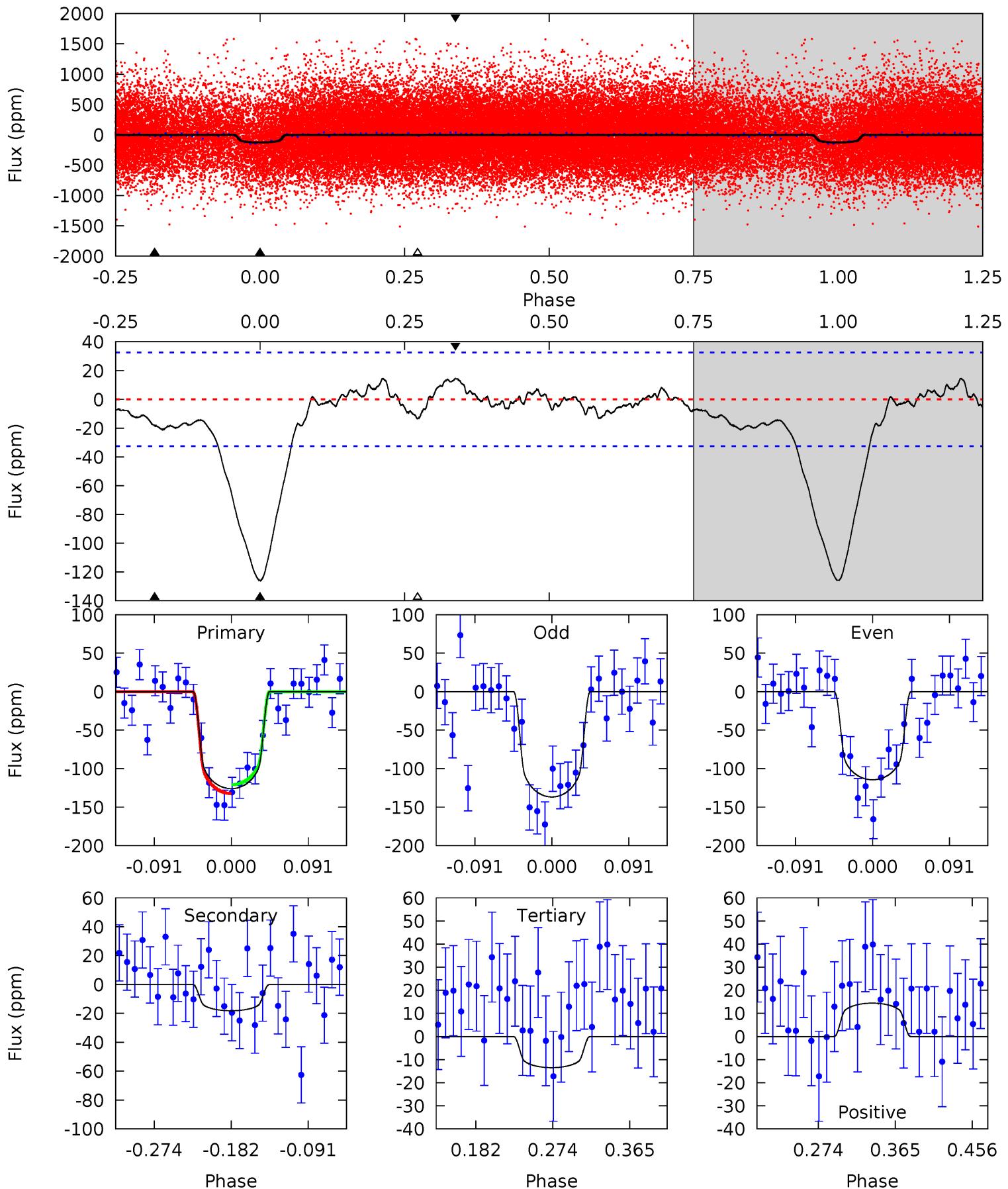
TCE 005303551-02 P= 2.400356 Days  $T_0=132.515070$  (BKJD)



# DV Model-Shift Uniqueness Test

005303551-02,  $P = 2.400452$  Days,  $E = 130.079836$  Days

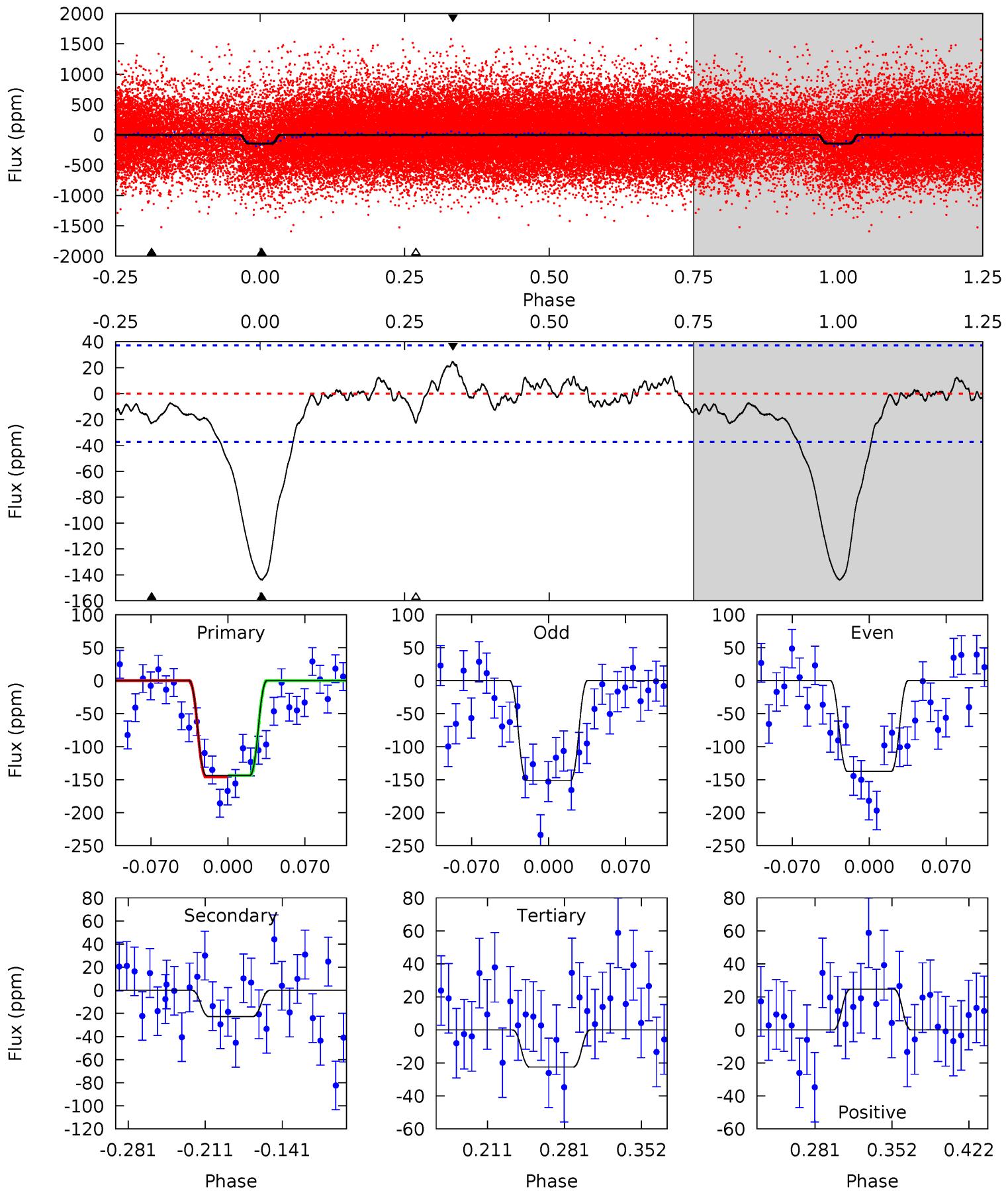
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.7	2.56	1.90	2.03	4.58	1.69	0.88	15.8	15.7	0.66	0.53	1.57	0.85	0.10	0.79



# Alt Model-Shift Uniqueness Test

005303551-02,  $P = 2.400356$  Days,  $E = 130.114714$  Days

Pri	Sec	Ter	Pos	$FA_1$	$FA_2$	$F_{\text{Red}}$	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
17.9	2.84	2.80	3.08	4.64	1.81	1.10	15.1	14.8	0.04	-0.23	0.85	0.95	0.15	0.13



## Stellar Parameters For KIC 005303551

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	$5654^{+169}_{-169}$	$4.395^{+0.128}_{-0.192}$	$-0.040^{+0.300}_{-0.300}$	$1.001^{+0.280}_{-0.151}$	$0.908^{+0.114}_{-0.085}$	$1.275^{+0.716}_{-0.618}$
	$+3\%/-3\%$	$+3\%/-4\%$	$+750\%/-750\%$	$+28\%/-15\%$	$+13\%/-9\%$	$+56\%/-48\%$
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 005303551-02 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (\text{K})$	$T_{obs} (\text{K})$	$A_{obs}$
DV	$-18 \pm 7$	$1.43^{+0.44}_{-0.44}$	$1897^{+157}_{-102}$	$3604^{+524}_{-388}$	$5.512^{+6.571}_{-2.863}$
Alt.	$-23 \pm 8$	$1.47^{+0.45}_{-0.41}$	$1911^{+138}_{-108}$	$3759^{+527}_{-414}$	$6.563^{+6.829}_{-3.219}$

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

UKIRT Image

Declination

