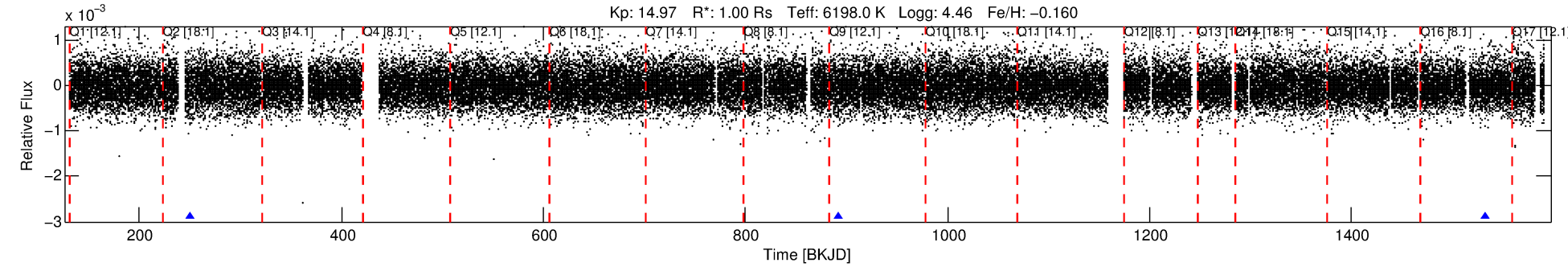
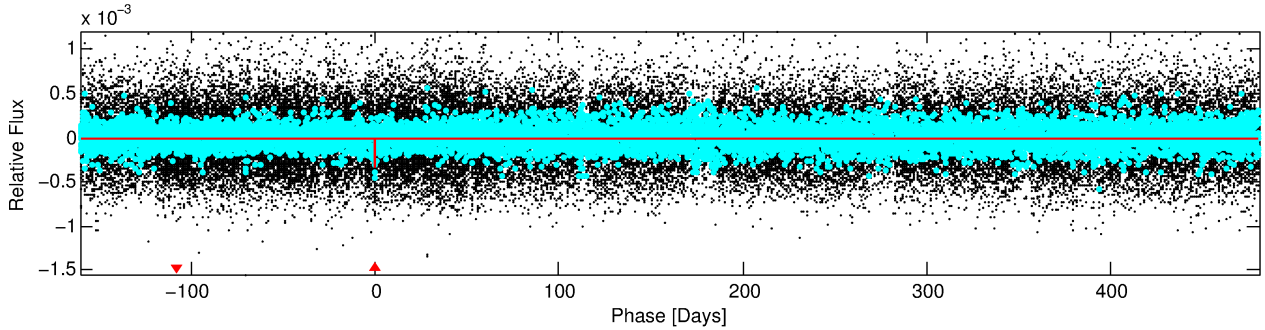
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

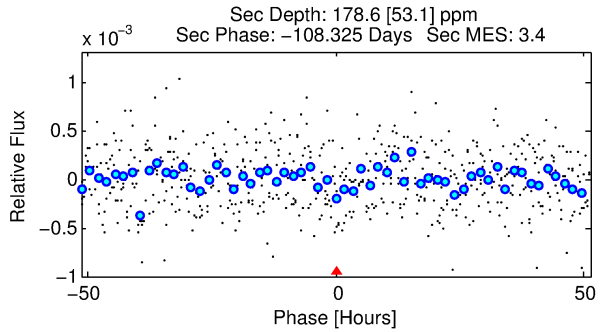
# DV One-Page Summary

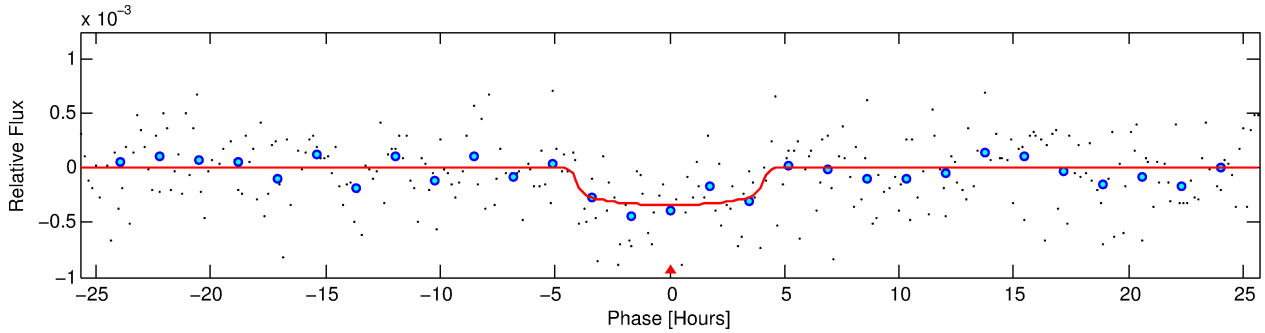
**KIC: 9947980 Candidate: 1 of 1 Period: 640.883 d**

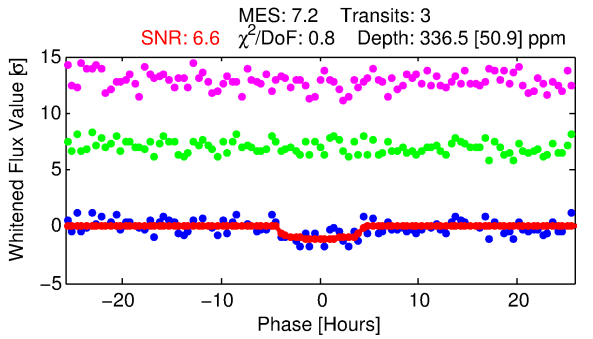
WARNING: THIS DATA IS SIMULATED, NOT OBSERVED

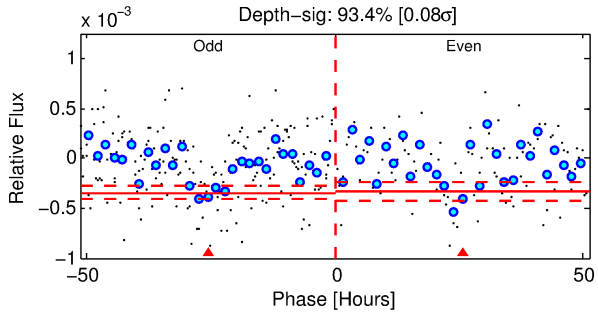



DV Fit Results:

Period = 640.88331 [0.01450] d
Epoch = 250.8542 [0.0192] BKJD
Rp/R* = 0.0184 [0.0115]
a/R* = 380.57 [1216.34]
b = 0.77 [1.70]

Seff = 0.60 [0.25]
Teq = 225 [23] K
Rp = 2.01 [1.42] Re
a = 1.4893 [0.4019] AU

Ag = 53666.08 [72279.92] [0.74σ]
Teffp = 5286 [1712] K [2.96σ]

DV Diagnostic Results:

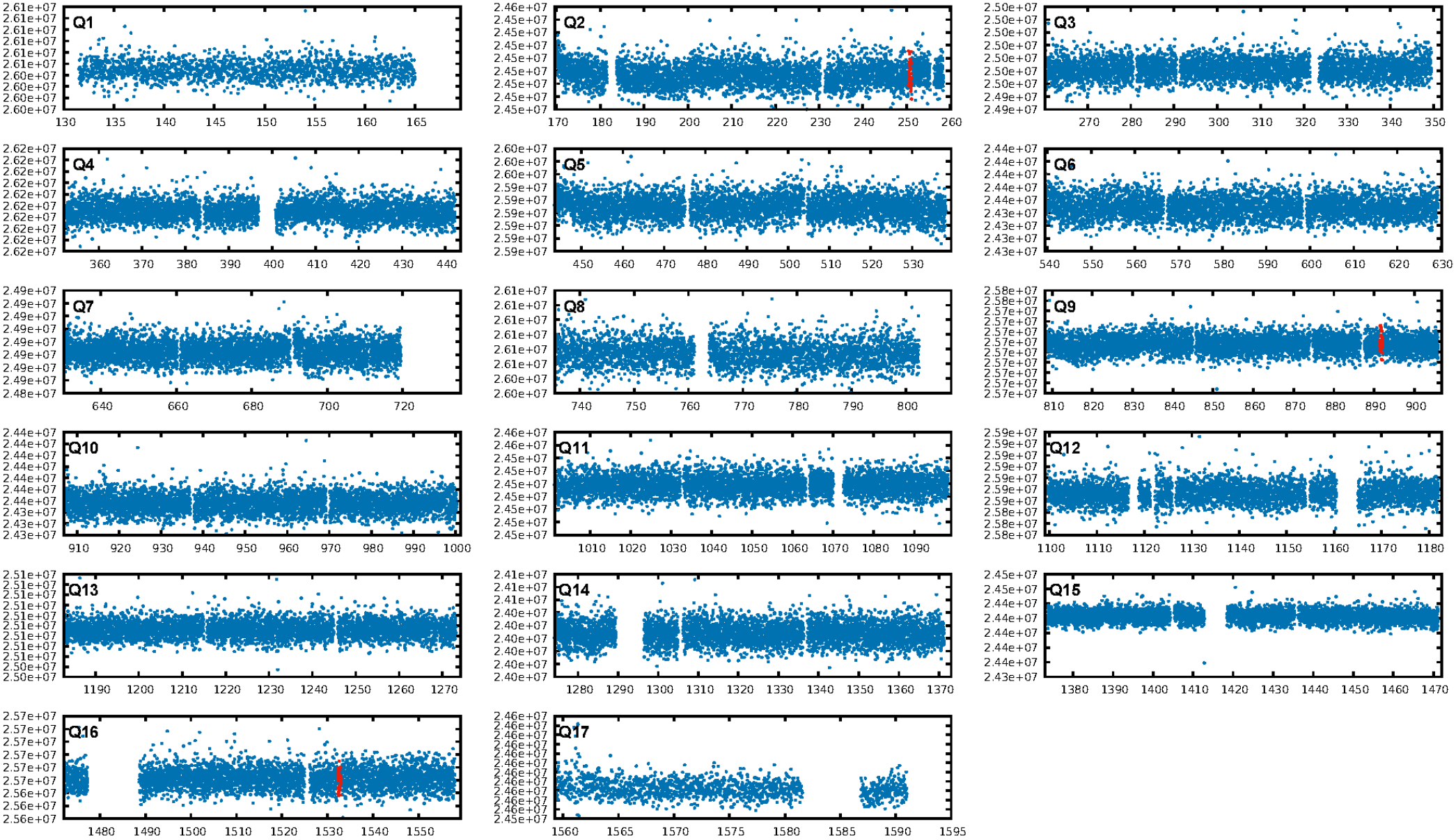
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 100.0%
ModelChiSquareGof−sig: 99.9%
Bootstrap−pfa: 2.10e−11
RollingBand−fgt: N/A
GhostDiagnostic−chr: N/A

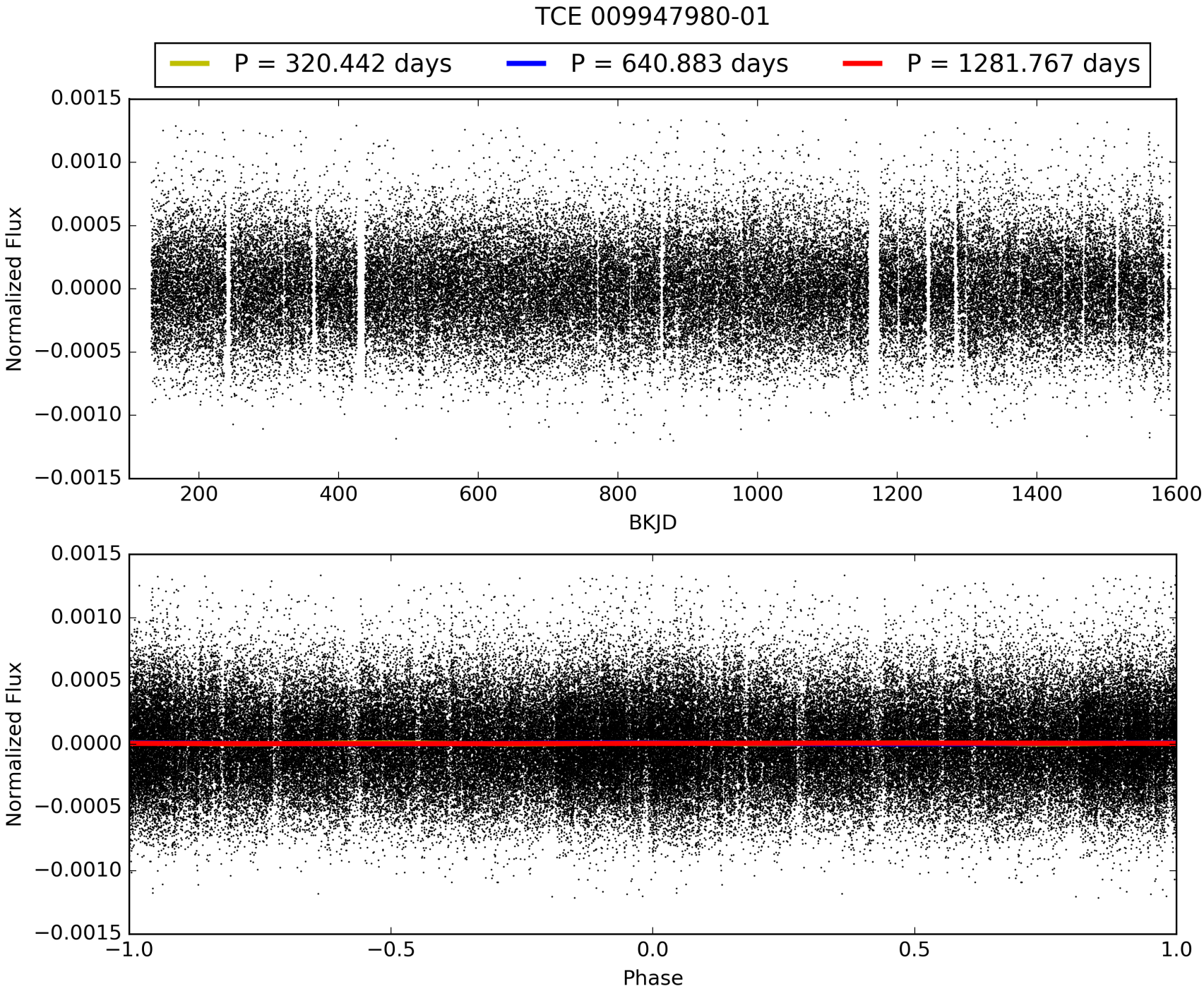
Centroid−sig: N/A
Centroid−so: N/A
OotOffset−rm: N/A
KicOffset−rm: N/A
OotOffset−st: 0/0/0/0 [0]
KicOffset−st: 0/0/0/0 [0]
DiffImageQuality−fgm: N/A
DiffImageOverlap−fno: N/A

**Software Revision: svn+ssh://murzim/repo/soc/branches/integ/ksop−2602@61285 −− Date Generated: 02−Jun−2016 01:40:03 Z**

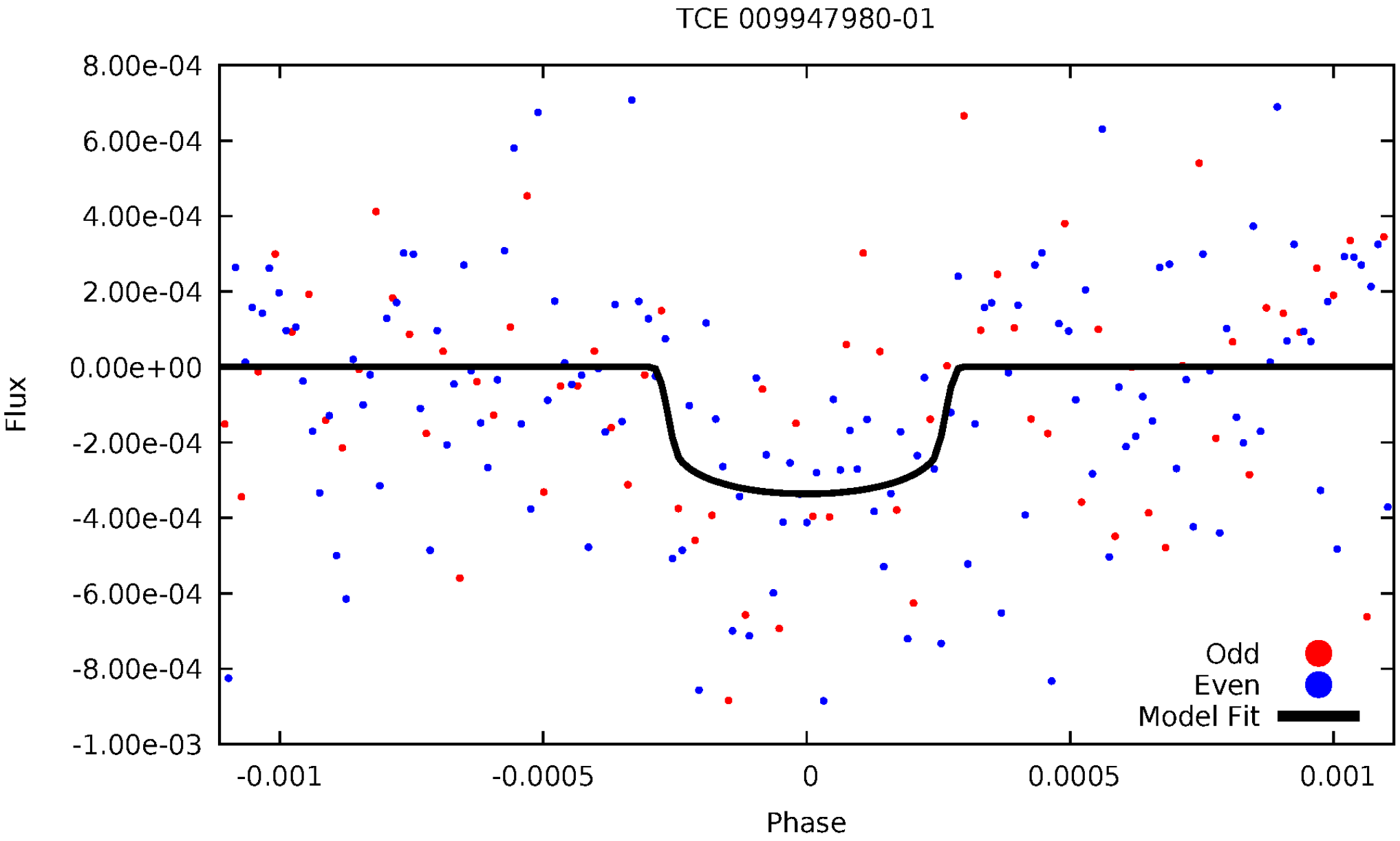
**This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center**

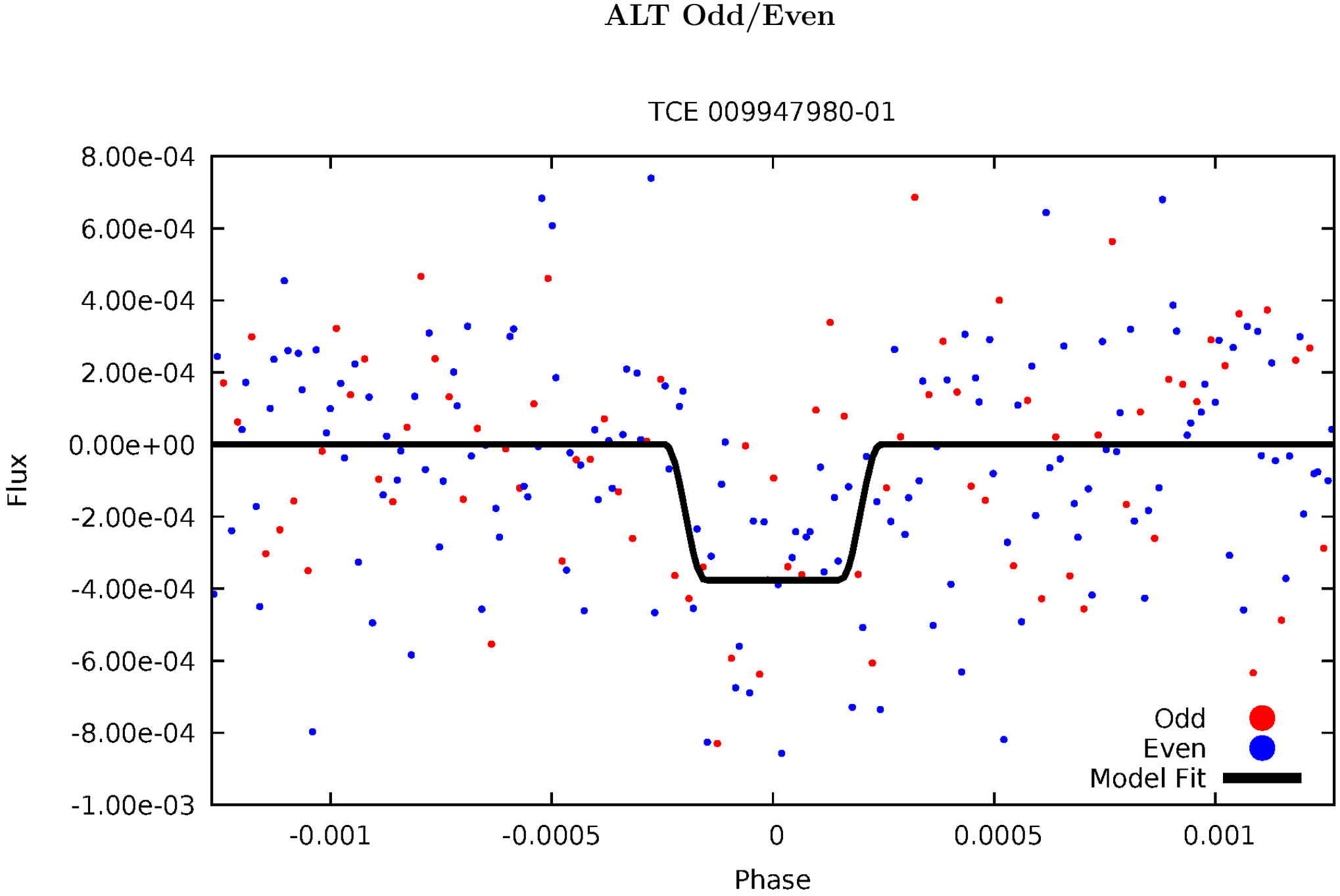
# TCE 009947980-01, PDC Light Curves



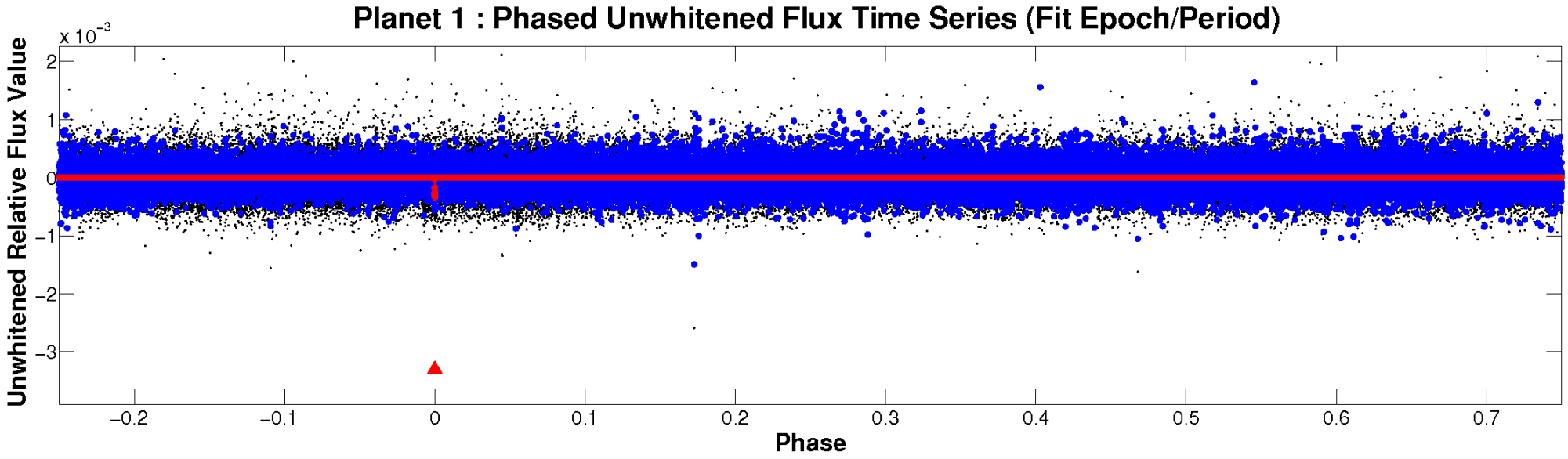

TCE 009947980-01
P = 320.442 days
P = 640.883 days
P = 1281.767 days
Normalized Flux
0.0015
0.0010
0.0005
0.0000
−0.0005
−0.0010
−0.0015
200
400
600
800
1000
1200
1400
1600
BKJD
Normalized Flux
−1.0
−0.5
0.0
0.5
1.0
Phase

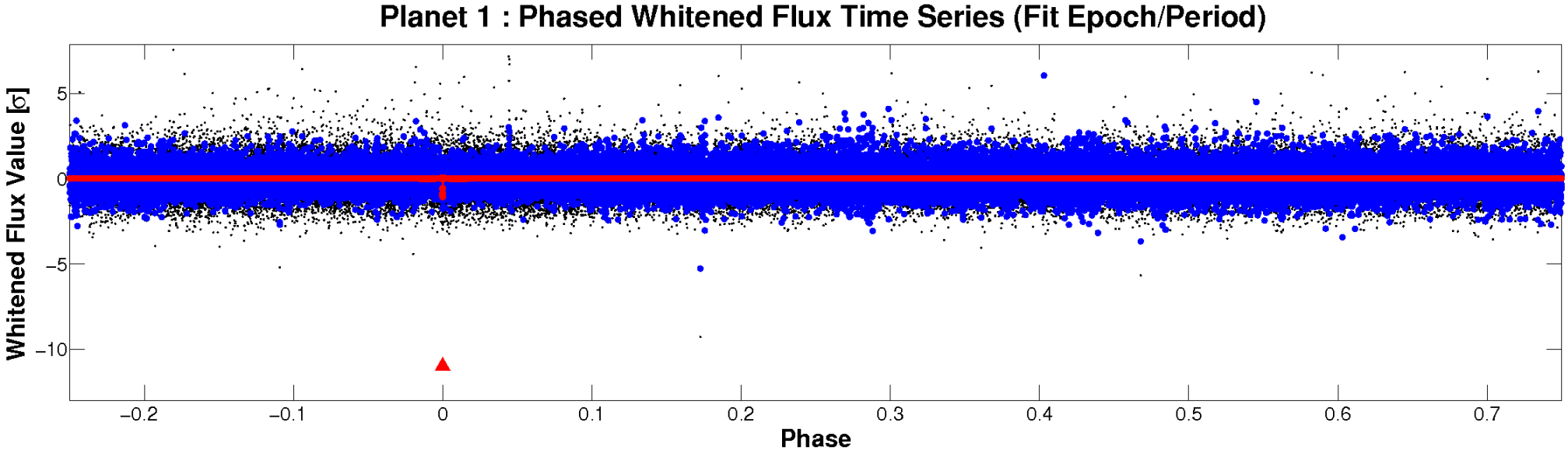
**DV Odd/Even**


TCE 009947980-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit


ALT Odd/Even
TCE 009947980-01
8.00e-04
6.00e-04
4.00e-04
2.00e-04
0.00e+00
-2.00e-04
-4.00e-04
-6.00e-04
-8.00e-04
-1.00e-03
Flux
-0.001
-0.0005
0
0.0005
0.001
Phase
Odd
Even
Model Fit

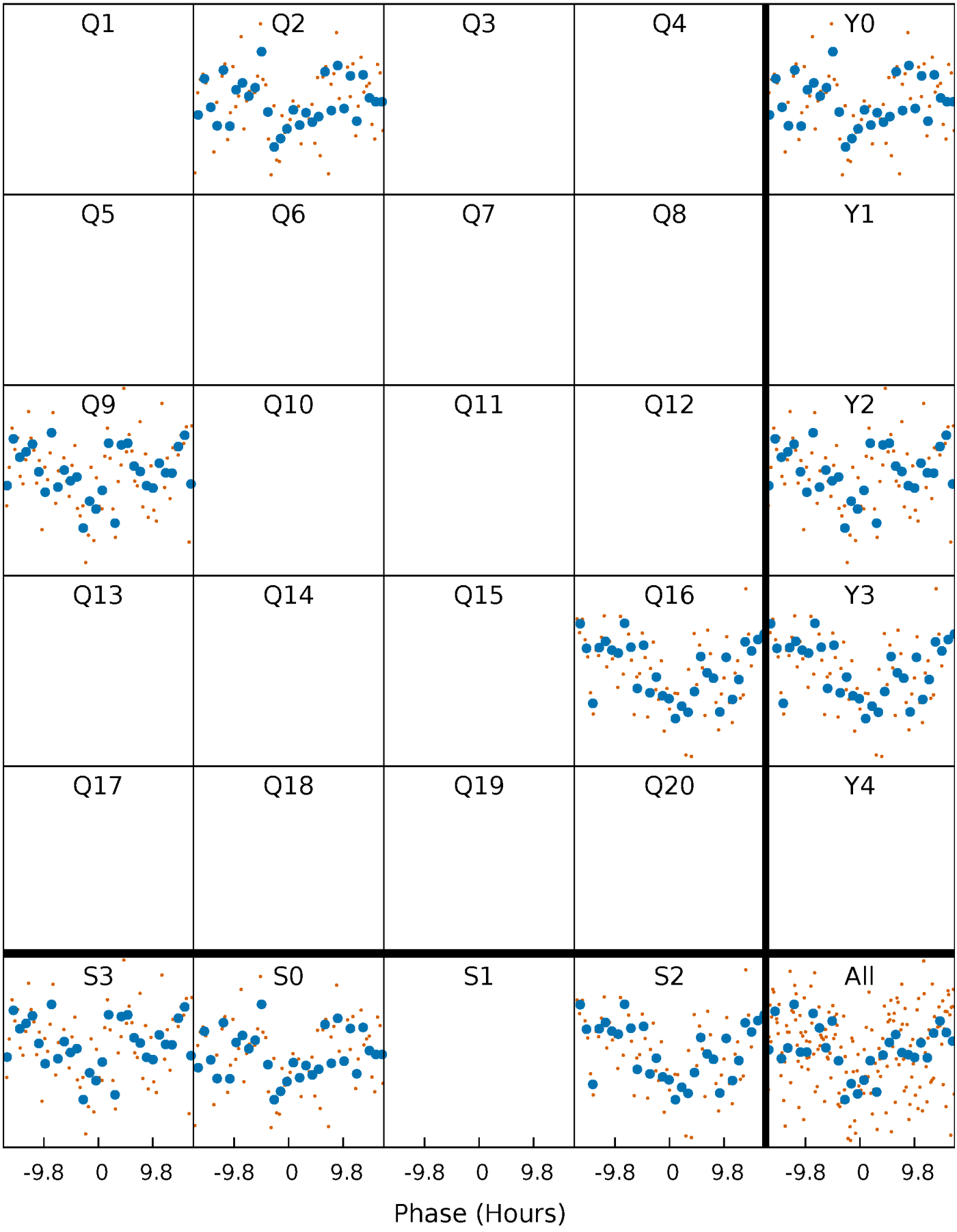
# Non-Whitened Vs. Whitened Light Curve



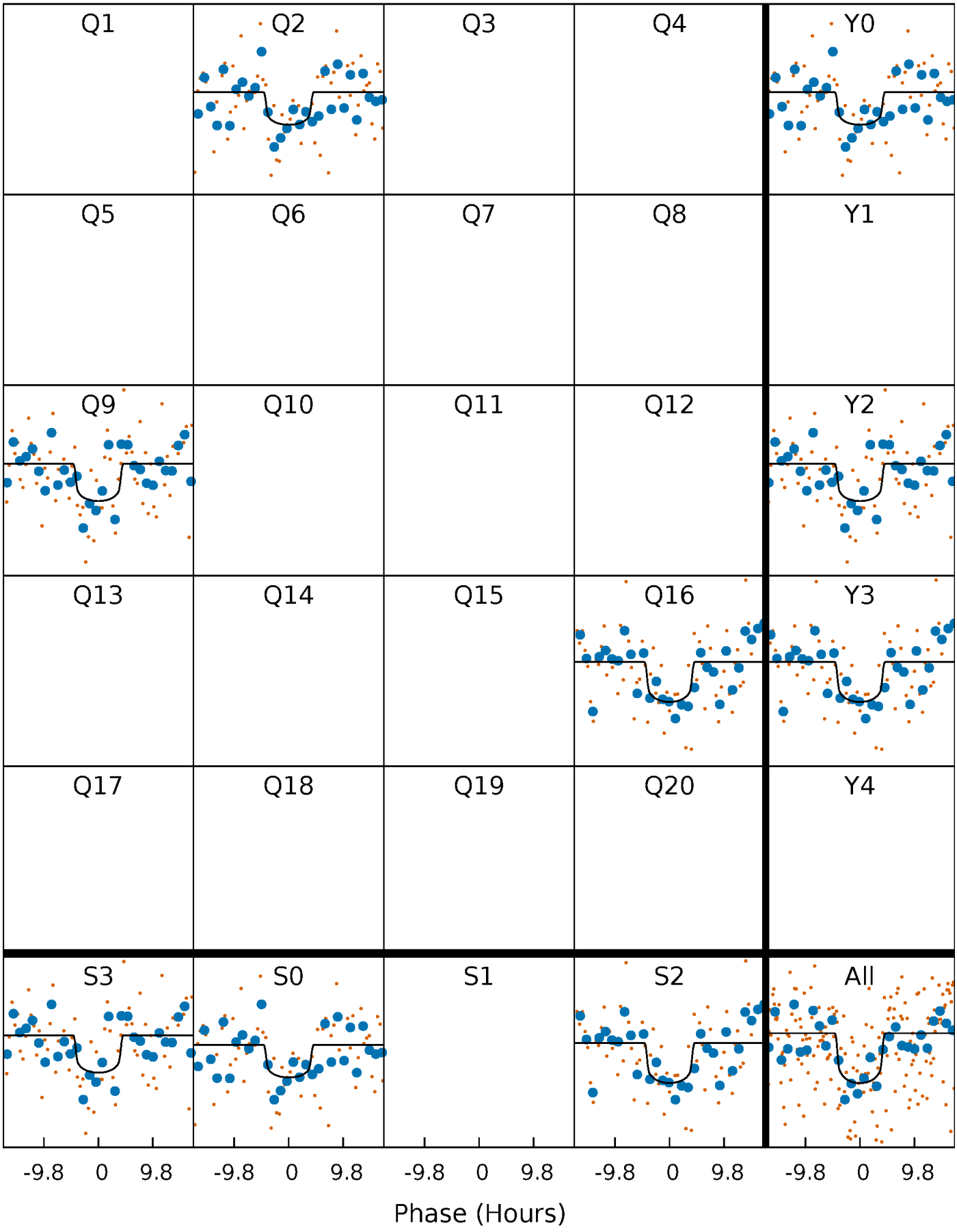
# PDC Quarter-Phased Transit Curves

TCE 009947980-01  P=640.883310 Days  $T_0$=250.854201 (BKJD)



# DV Quarter-Phased Transit Curves

TCE 009947980-01  P=640.883310 Days  $T_0$=250.854201 (BKJD)



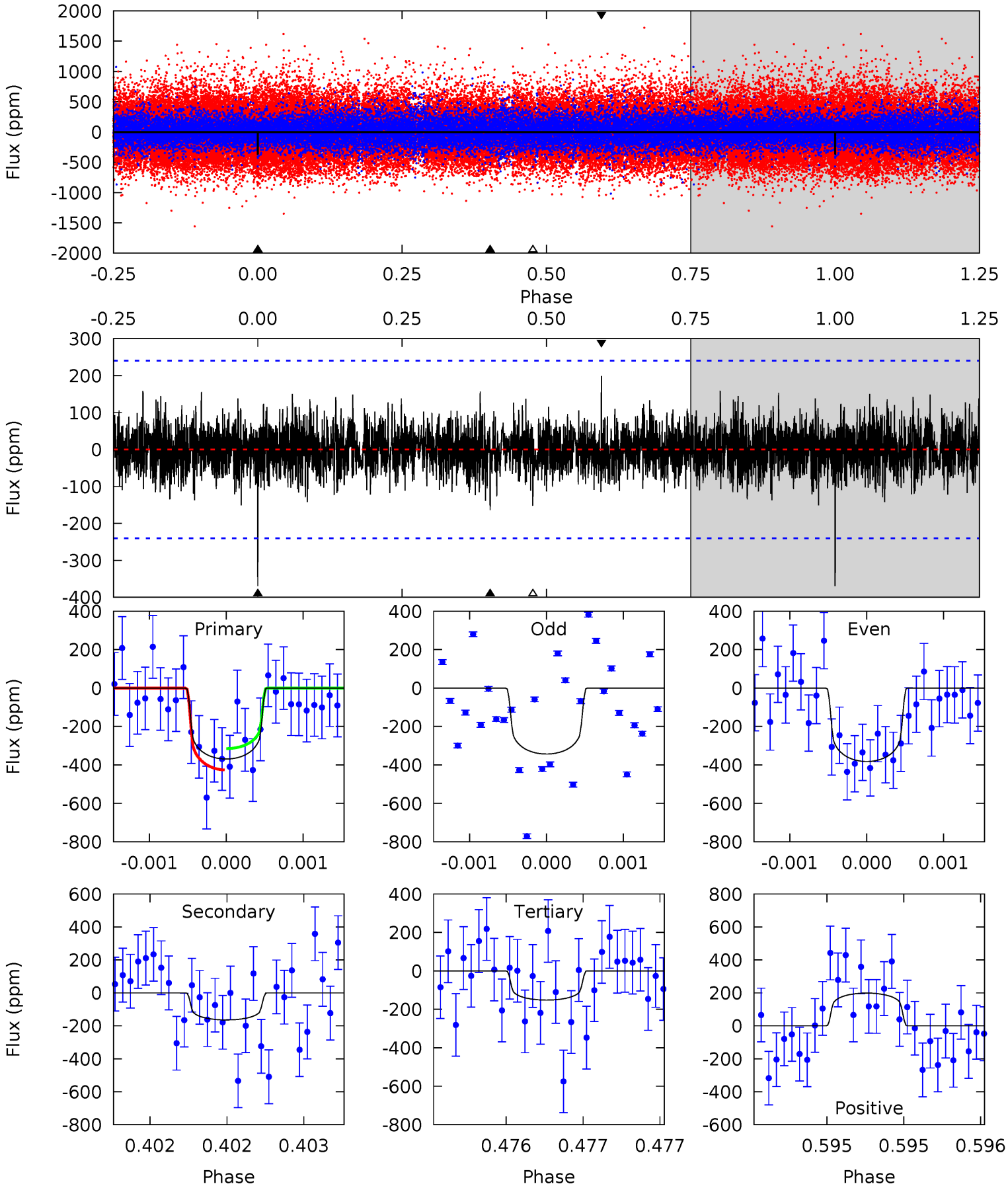
# Alt. Detrend Quarter-Phased Transit Curves

TCE 009947980-01  P=640.905421 Days  $T_0$=250.817971 (BKJD)

# DV Model-Shift Uniqueness Test

009947980-01, P = 640.883310 Days, E = 250.854201 Days

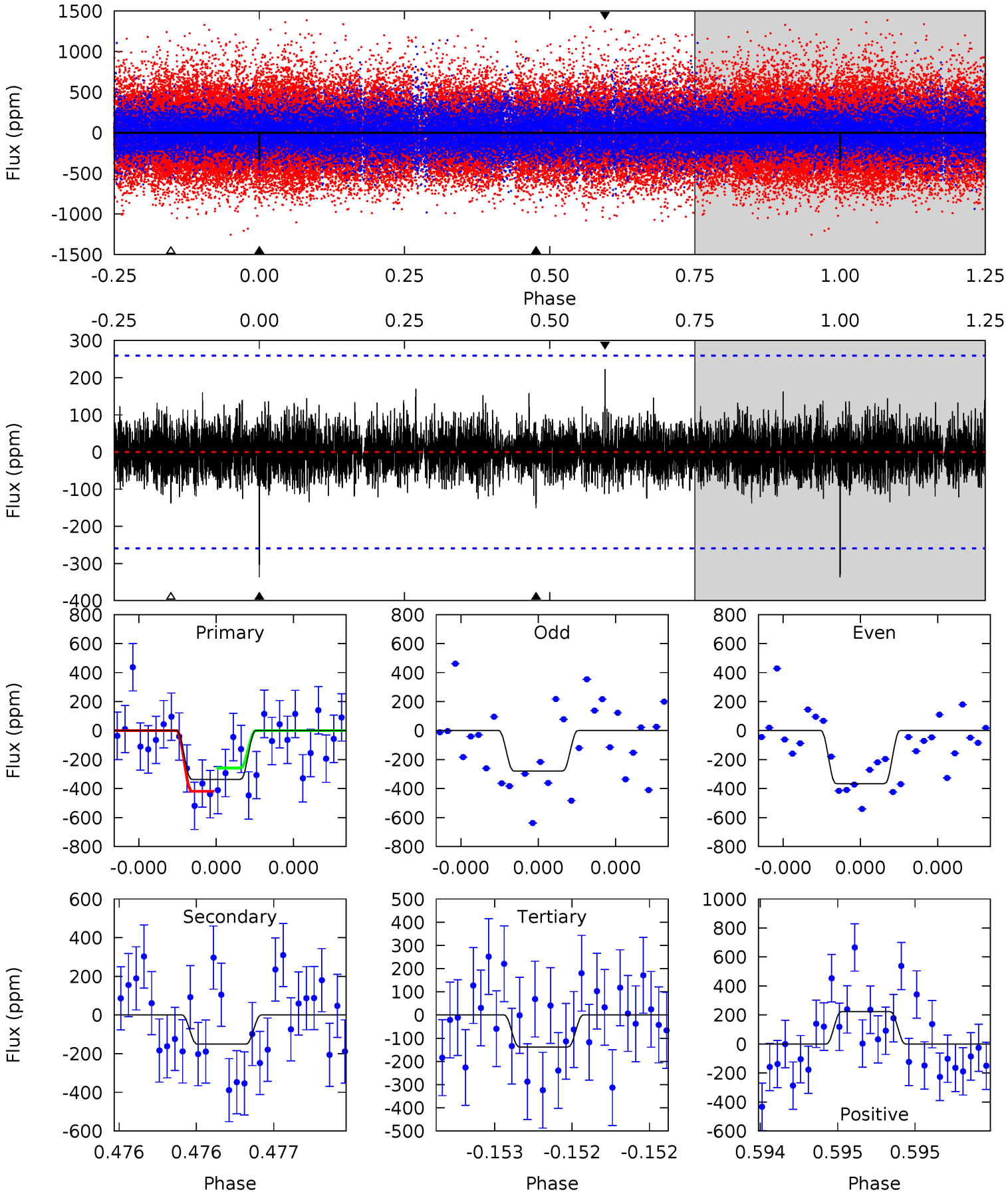
| Pri | Sec | Ter | Pos | $FA_1$ | $FA_2$ | $F_{Red}$ | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8.53 | 3.79 | 3.51 | 4.59 | 5.55 | 3.45 | 1.02 | 5.02 | 3.94 | 0.29 | -0.79 | 0.42 | 0.97 | 0.35 | 1.29 |



# Alt Model-Shift Uniqueness Test

009947980-01, P = 640.905421 Days, E = 250.817971 Days

| Pri | Sec | Ter | Pos | $FA_1$ | $FA_2$ | $F_{Red}$ | Pri-Ter | Pri-Pos | Sec-Ter | Sec-Pos | Odd-Evn | DMM | Shape | TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7.24 | 3.25 | 2.97 | 4.80 | 5.58 | 3.49 | 0.92 | 4.28 | 2.44 | 0.28 | -1.55 | 0.86 | 0.93 | 0.40 | 1.73 |



Stellar Parameters For KIC 009947980

| | $T_{\rm eff}(K)$ | $\log(g)$ | [Fe/H] | $R$ ($R_\odot$) | $M(M_\odot)$ | $p_\star$ (g·cm$^{-3}$) |
|---|---|---|---|---|---|---|
| | $6198^{+174}_{-218}$ | $4.464^{+0.054}_{-0.216}$ | $-0.160^{+0.250}_{-0.300}$ | $1.005^{+0.321}_{-0.107}$ | $1.072^{+0.144}_{-0.144}$ | $1.489^{+0.420}_{-0.819}$ |
| | +3%/-4% | +1%/-5% | +156%/-188% | +32%/-11% | +13%/-13% | +28%/-55% |
| 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 009947980-01 / KOI

| Detrend | Depth (ppm) | $R_p$ ($R_\oplus$) | $T_{max}$ (K) | $T_{obs}$ (K) | $A_{obs}$ |
|---|---|---|---|---|---|
| DV | -164±43 | $2.17^{+1.34}_{-1.19}$ | $321^{+25}_{-17}$ | $5163^{+2427}_{-915}$ | $40866^{+149336}_{-25230}$ |
| Alt. | -151±47 | $2.28^{+1.31}_{-1.21}$ | $321^{+23}_{-17}$ | $4937^{+2220}_{-848}$ | $34346^{+110751}_{-22178}$ |

$T_{max}$ = 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**


43.0
42.0
41.0
19:21:40.0
39.0
38.0
50.0
40.0
30:04:50.0
20.0
10.0
Declination