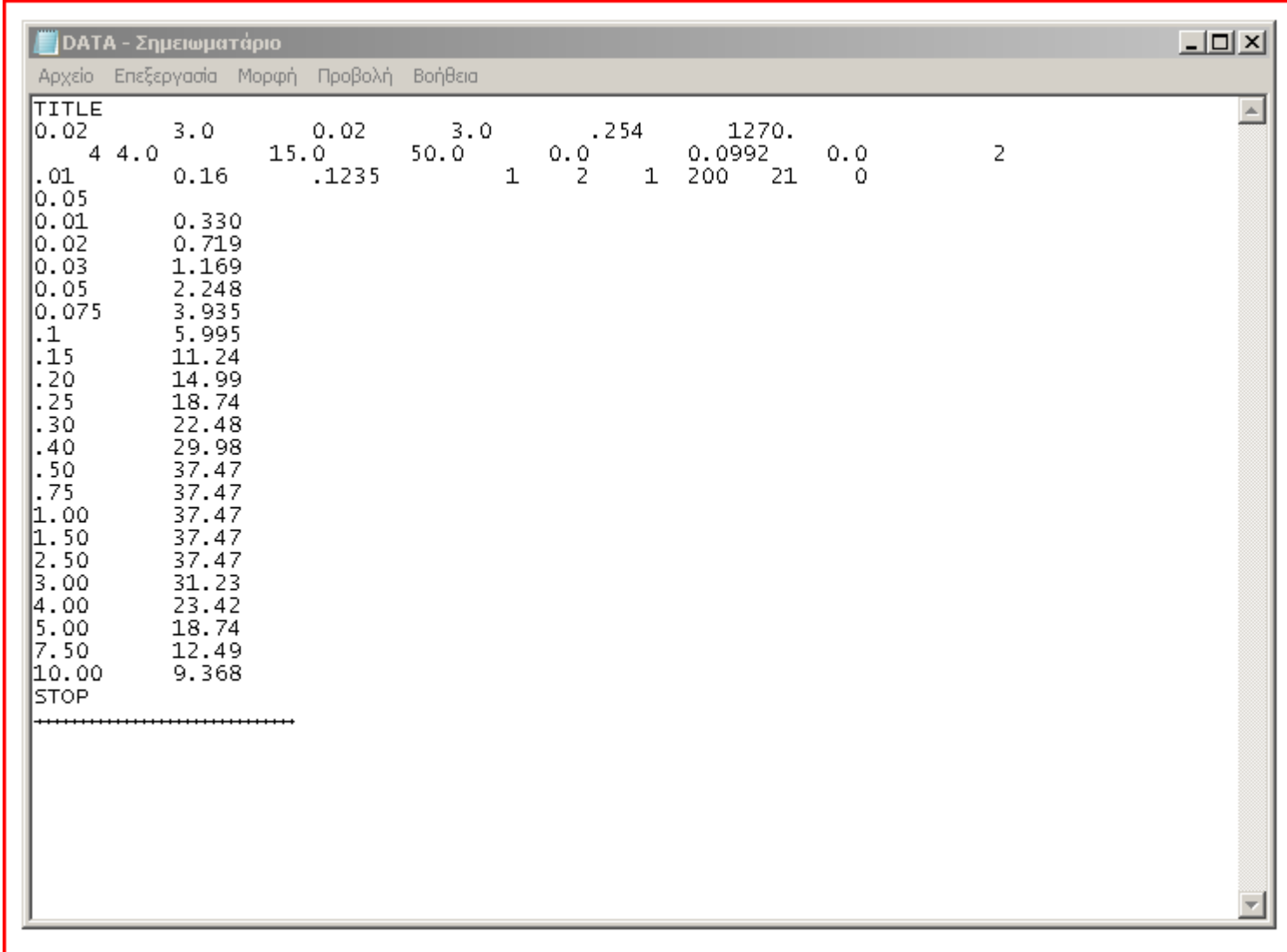
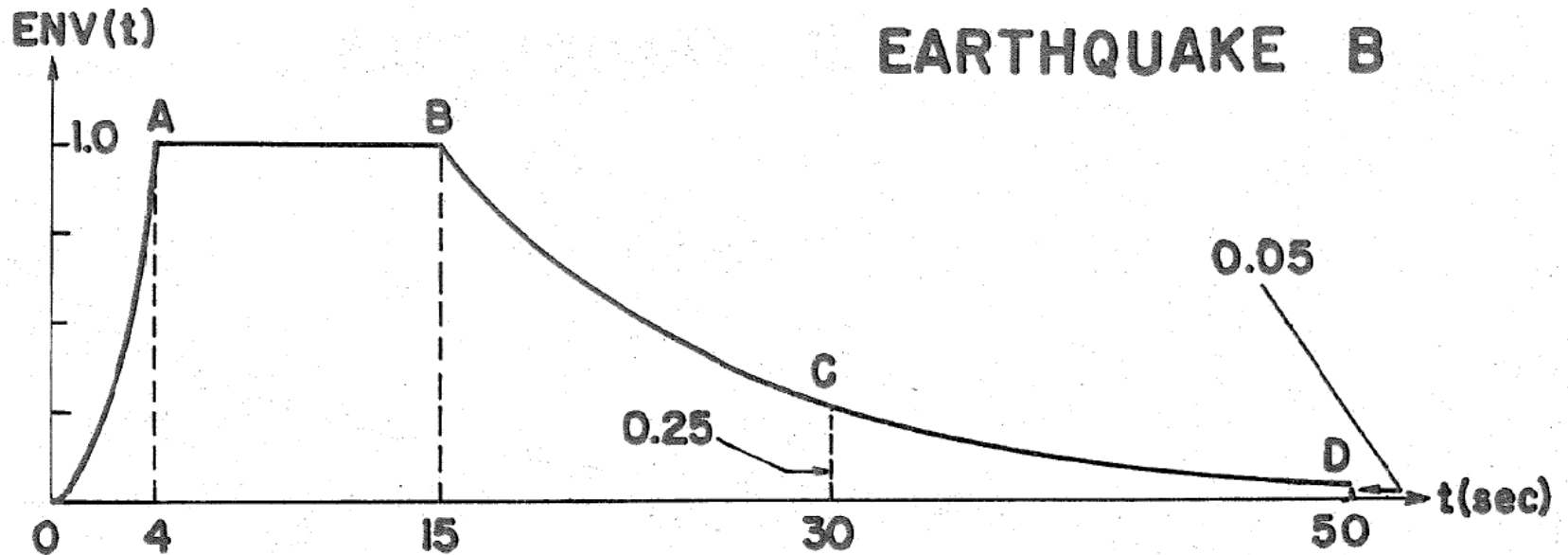


DATAFILE FOR PROGRAM QUAKE



```
DATA - Σημειωματάριο
Αρχείο Επεξεργασία Μορφή Προβολή Βοήθεια
TITLE
0.02      3.0      0.02      3.0      .254      1270.
  4 4.0    15.0     50.0     0.0      0.0992    0.0      2
.01      0.16     .1235      1      2      1      200      21      0
0.05
0.01      0.330
0.02      0.719
0.03      1.169
0.05      2.248
0.075     3.935
.1        5.995
.15       11.24
.20       14.99
.25       18.74
.30       22.48
.40       29.98
.50       37.47
.75       37.47
1.00      37.47
1.50      37.47
2.50      37.47
3.00      31.23
4.00      23.42
5.00      18.74
7.50      12.49
10.00     9.368
STOP
-----
```



OA : $ENV(t) = t^2/16$

AB : 1.0

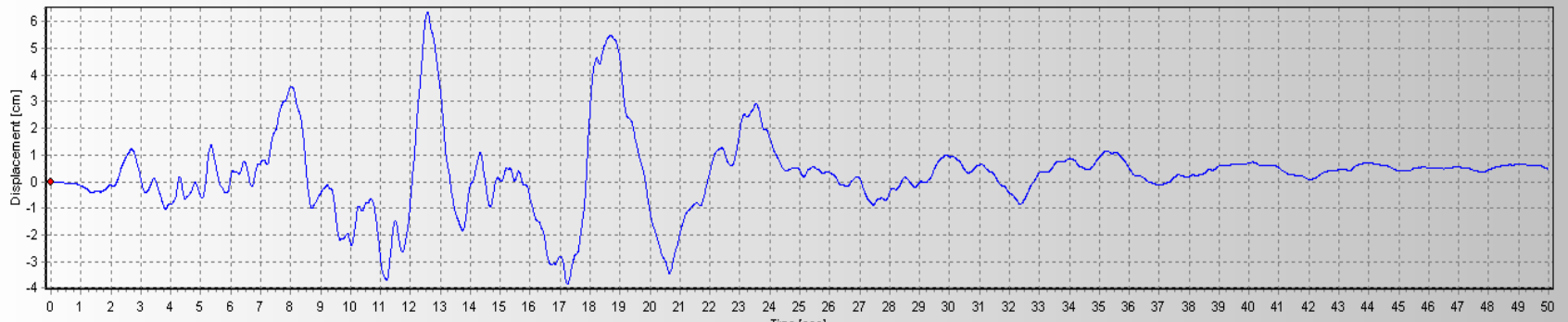
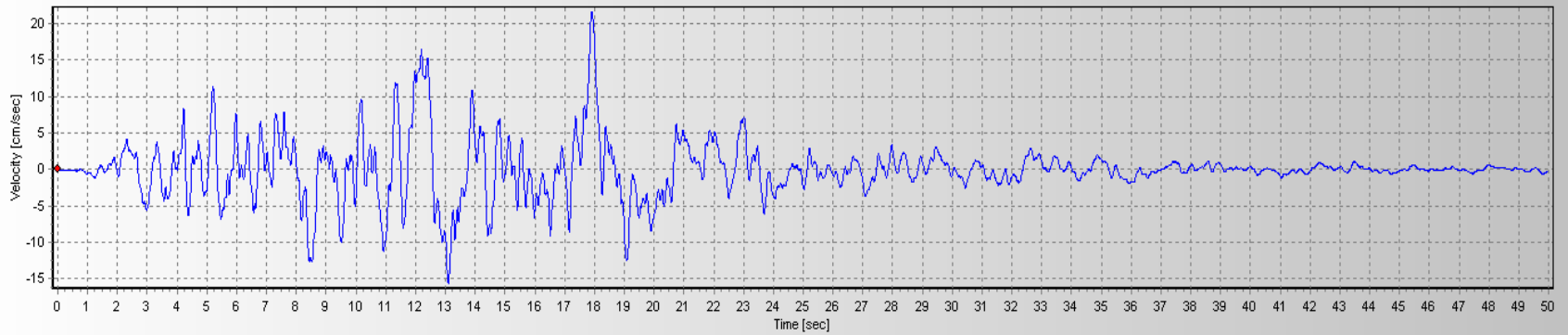
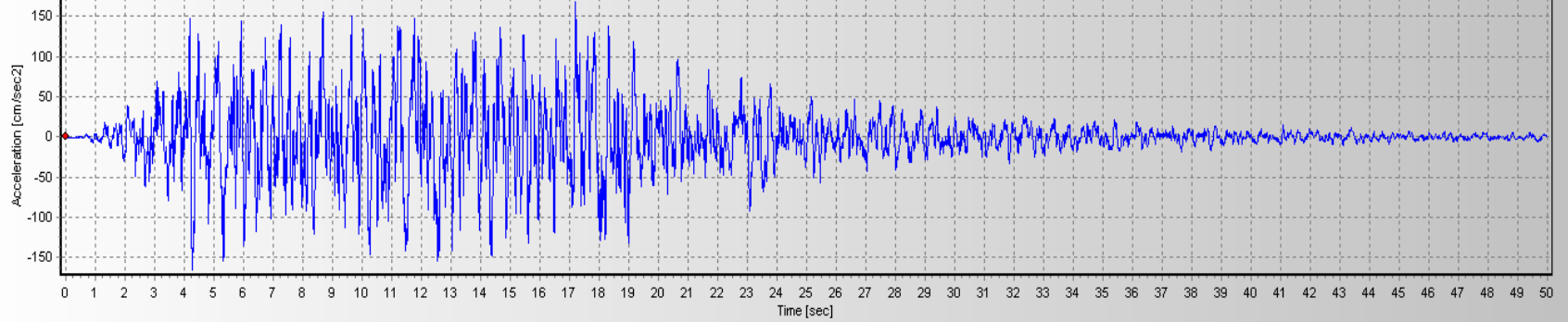
BC : $\exp[-0.0992(t-15)]$

CD : $0.05 + 0.005(50 - t)^2$

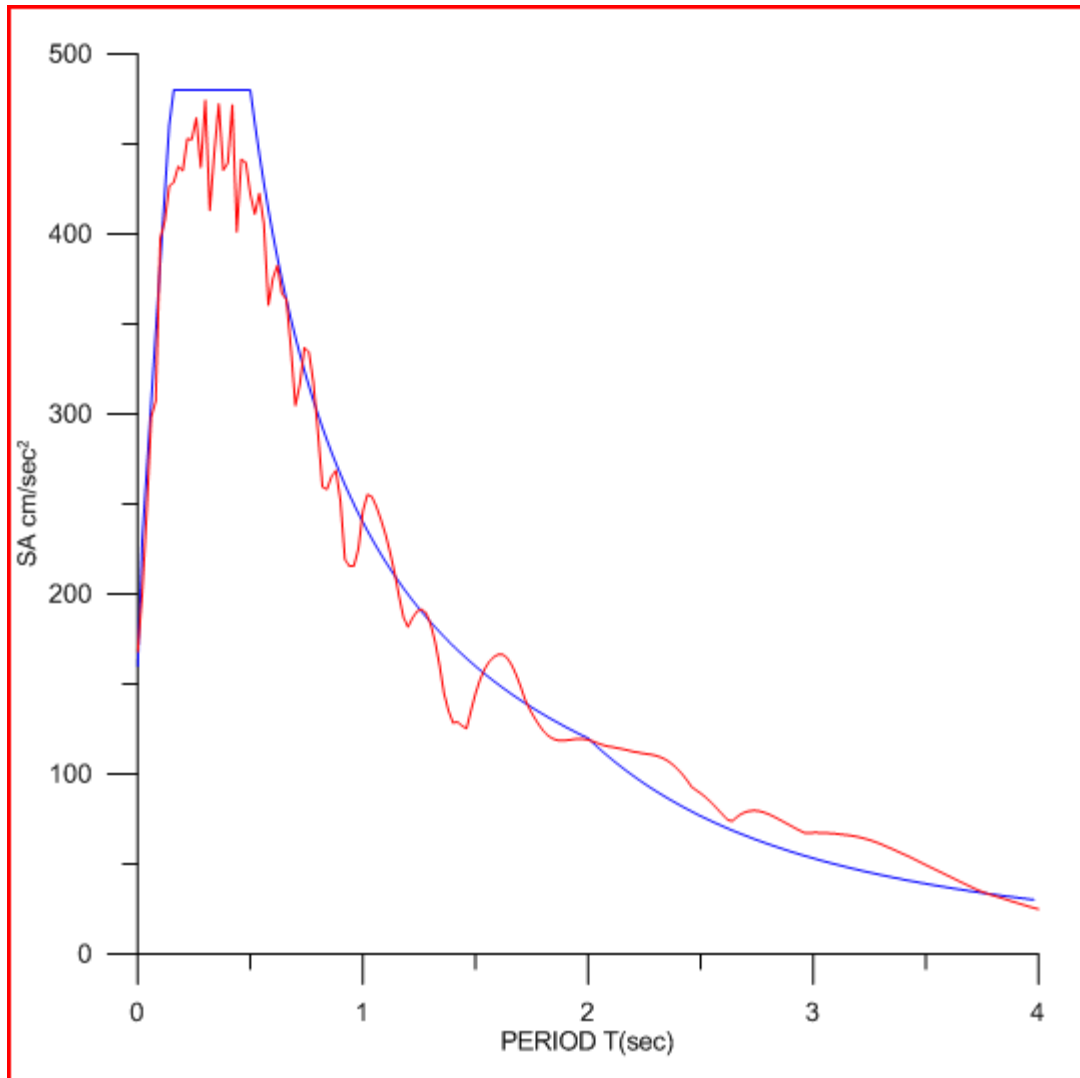
Figure 2

Envelope function for earthquake type B

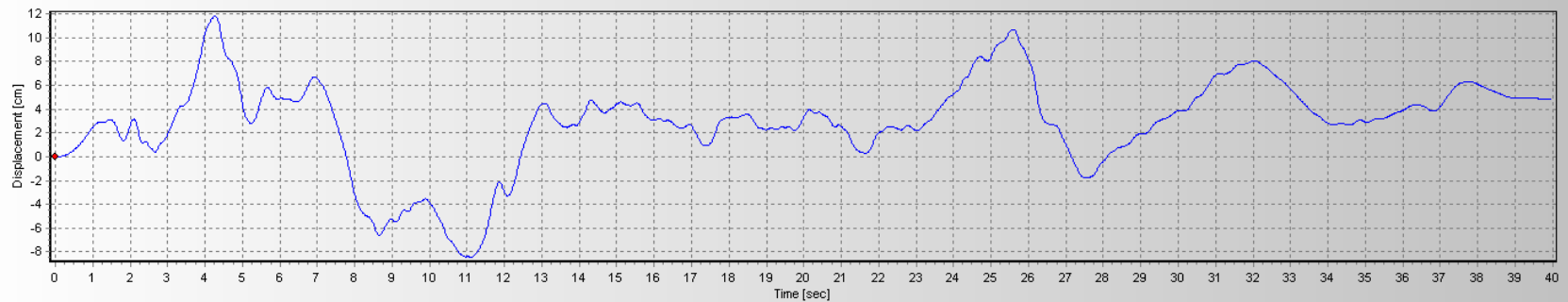
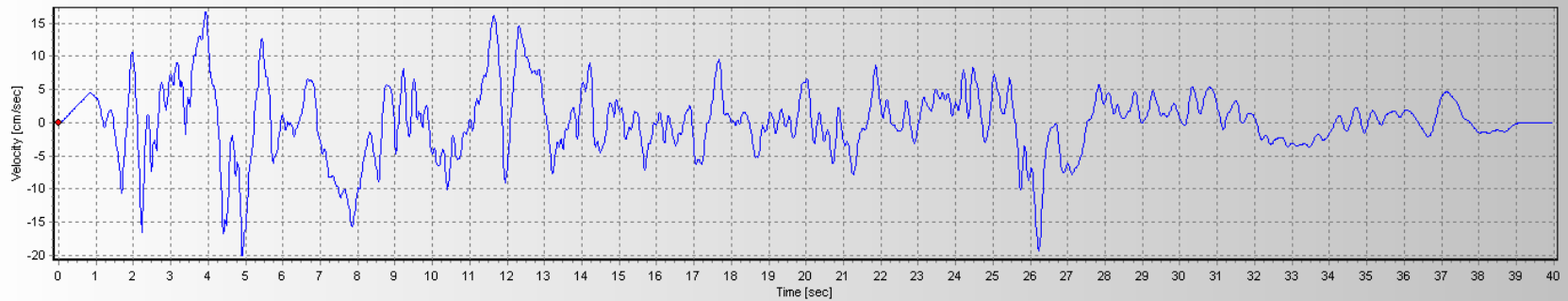
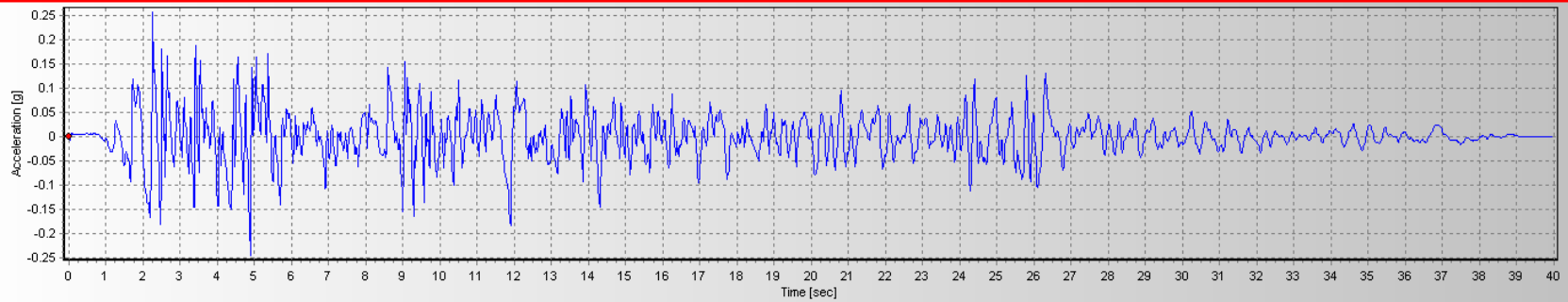
TIME HISTORY ENVELOPE



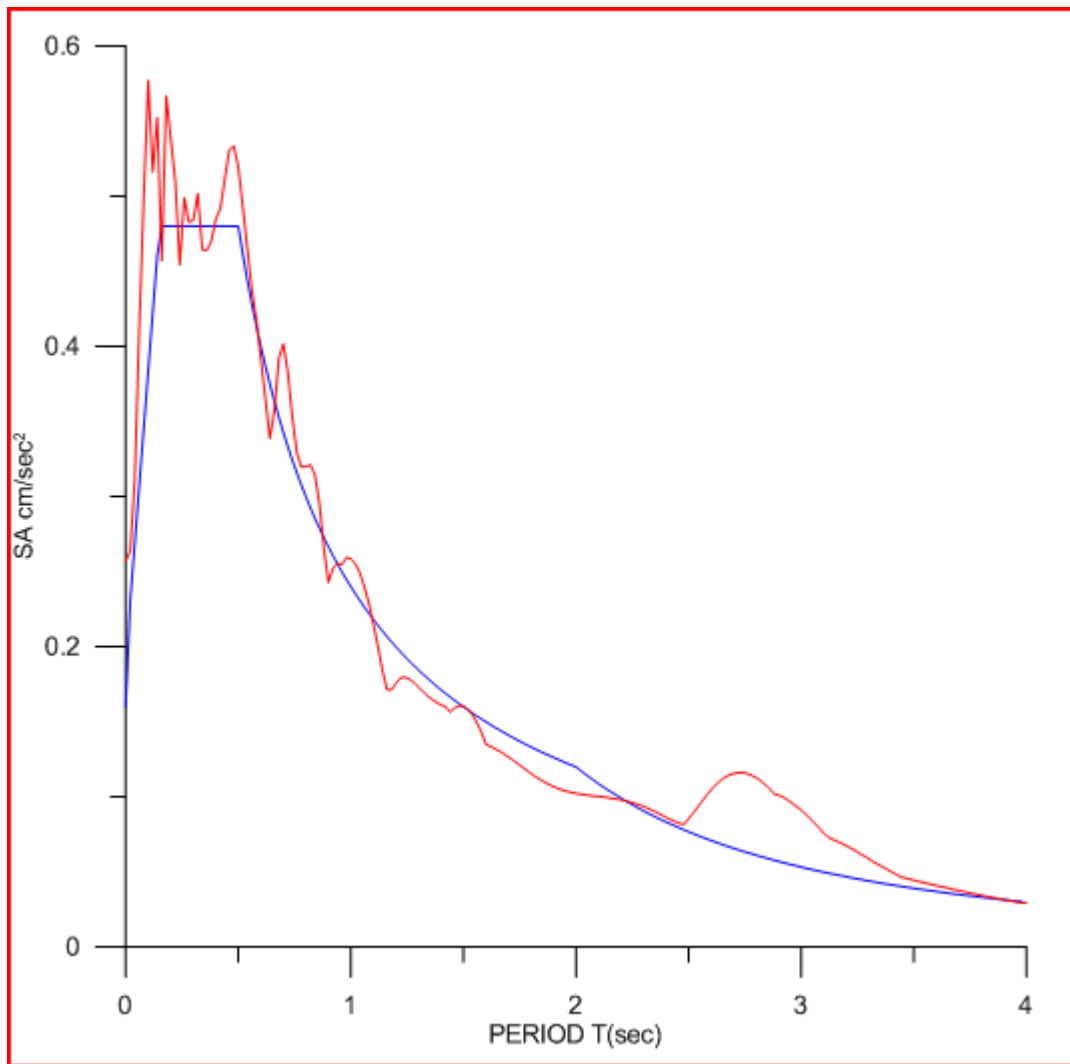
QUAKE OUTPUT – GROUND MOTION ACCRES



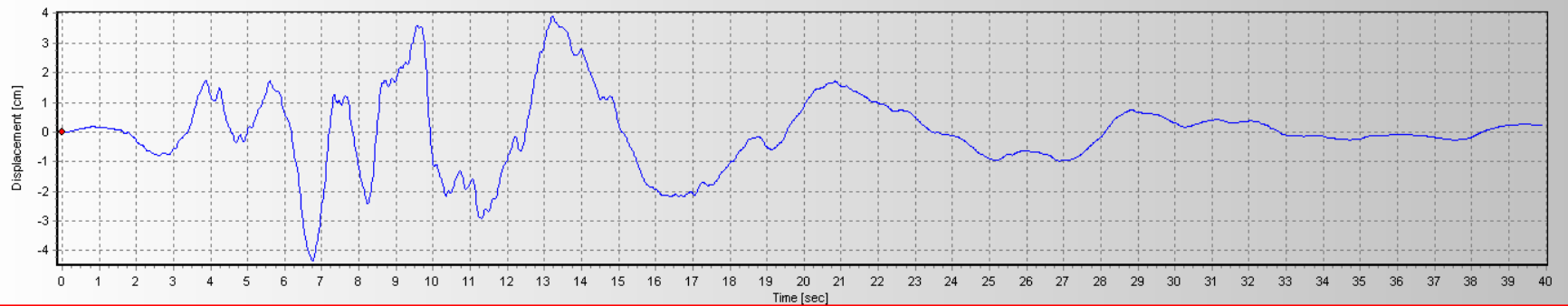
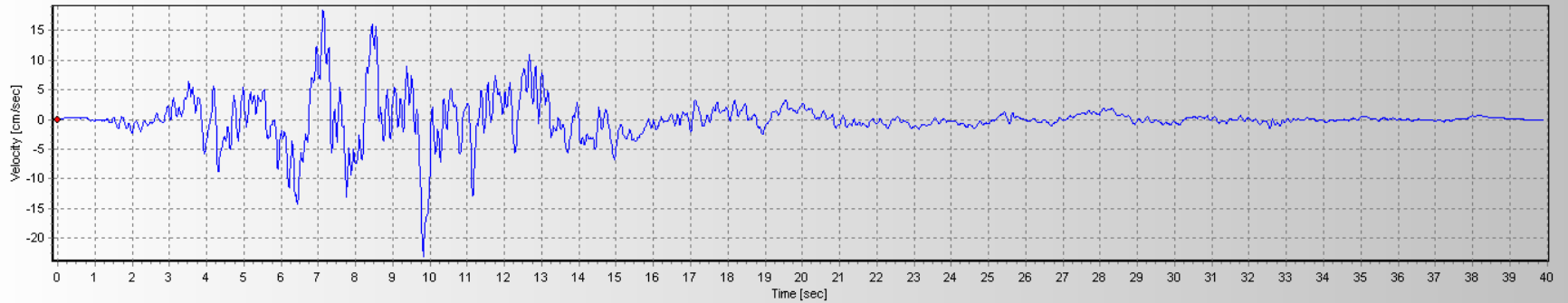
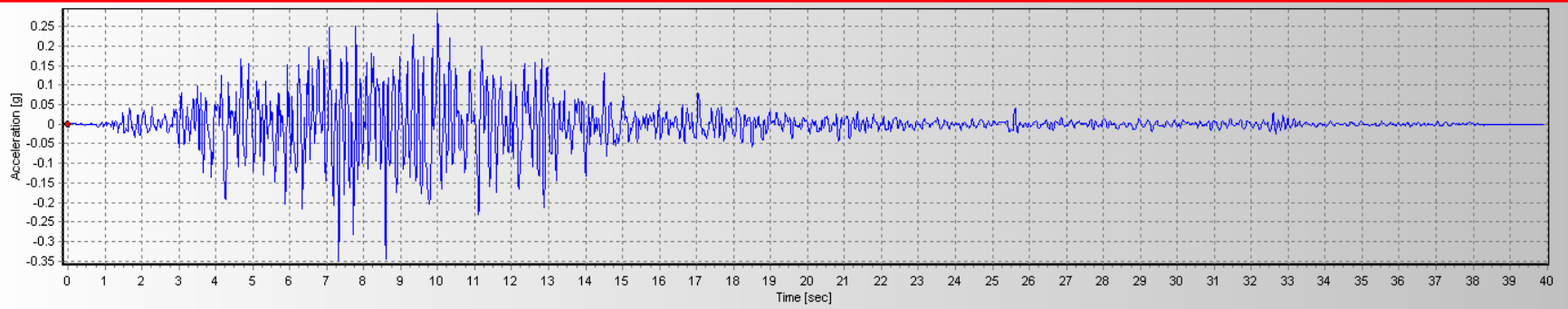
TARGET EC8 ACCELERATION SPECTRUM AND ACCRES DERIVED SPECTRUM



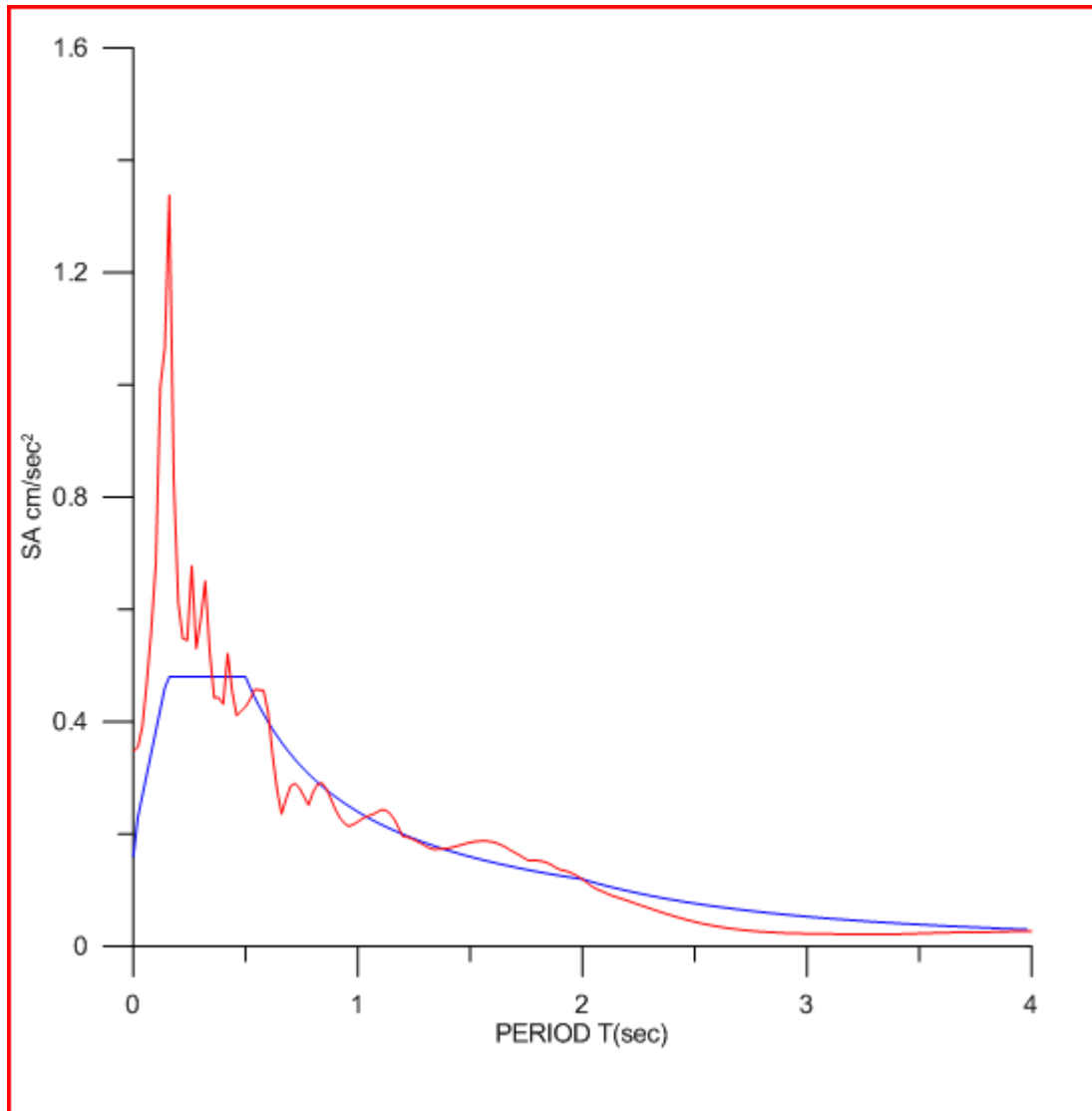
SEMI-ARTIFICIAL GROUND MOTION
FROM 00006L RECORD MATCHED TO EC8 SPECTRUM



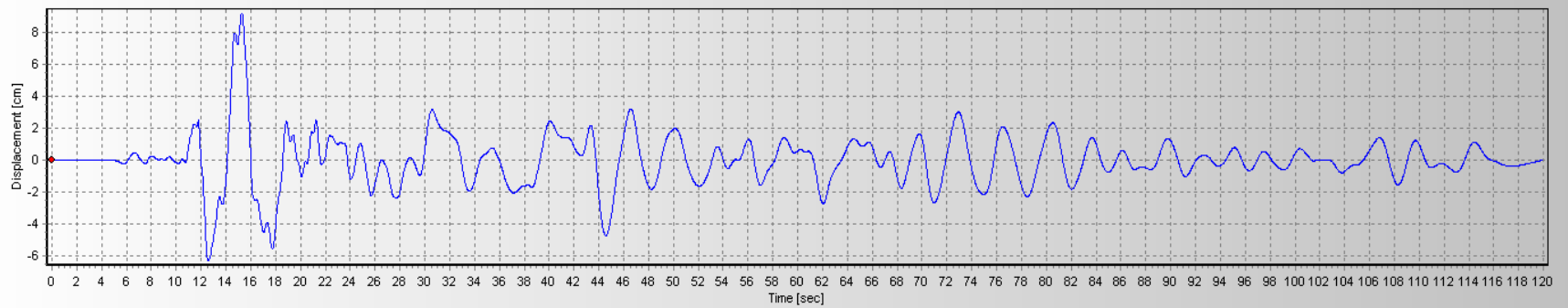
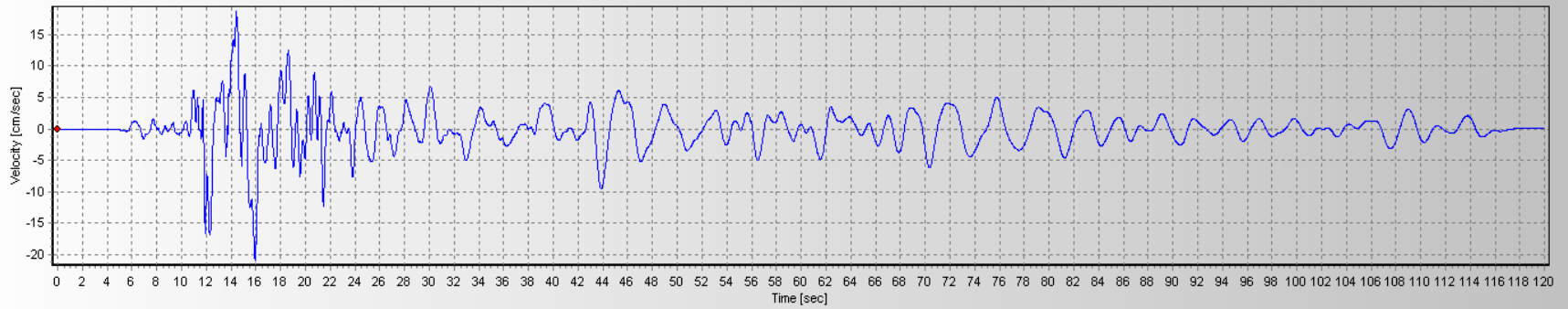
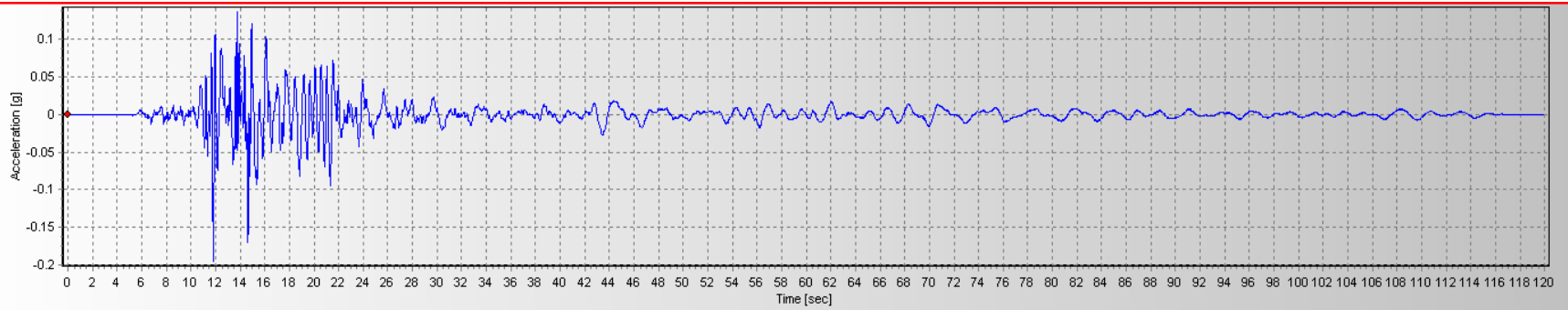
TARGET EC8 SPECTRUM AND MATCHED 00006L ACCELERATION SPECTRA



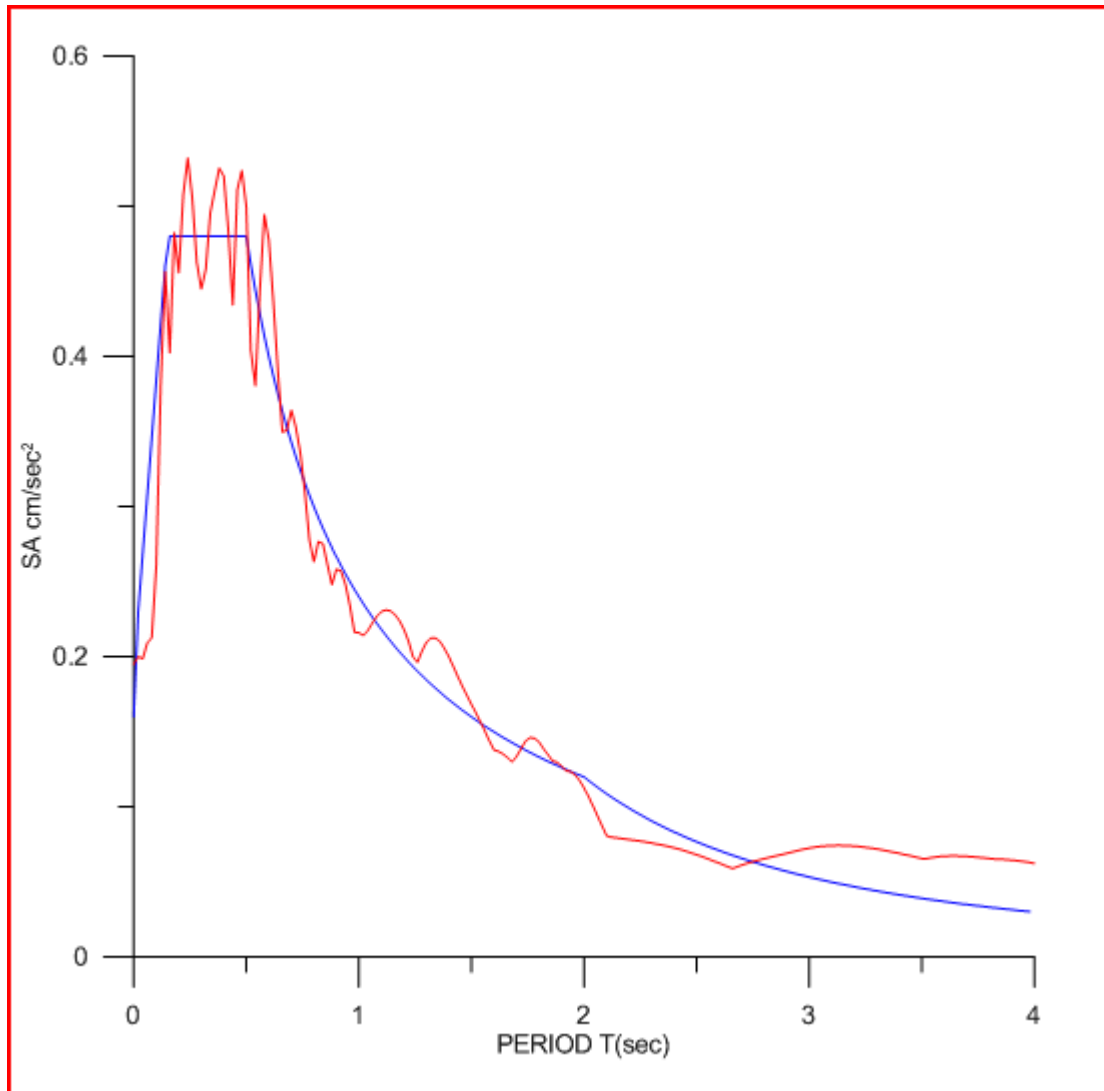
SEMI-ARTIFICIAL GROUND MOTION
FROM 00810T RECORD MATCHED TO EC8
SPECTRUM



TARGET EC8 AND MATCHED 00810T ACCELERATION SPECTRA



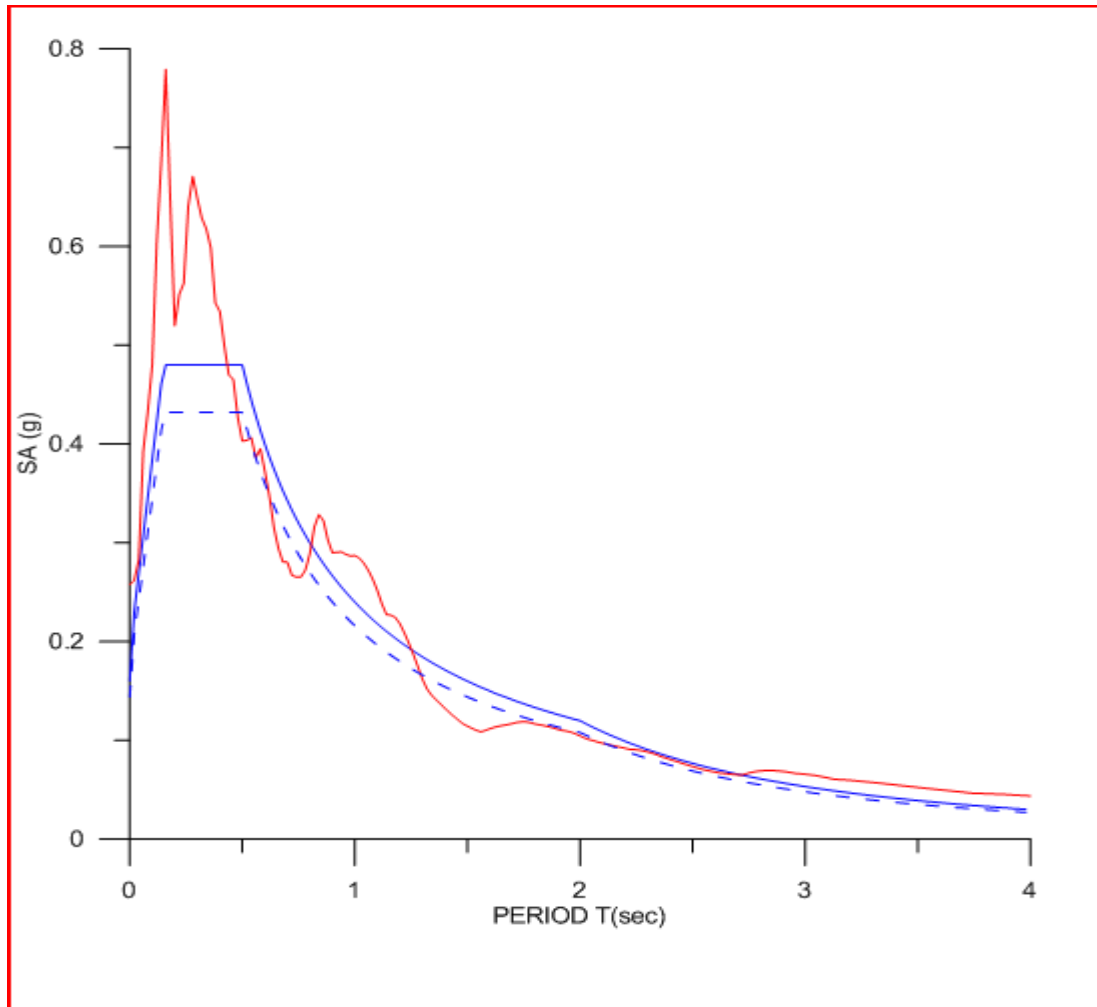
SEMI-ARTIFICIAL GROUND MOTION
FROM 01113L RECORD MATCHED TO EC8
SPECTRUM



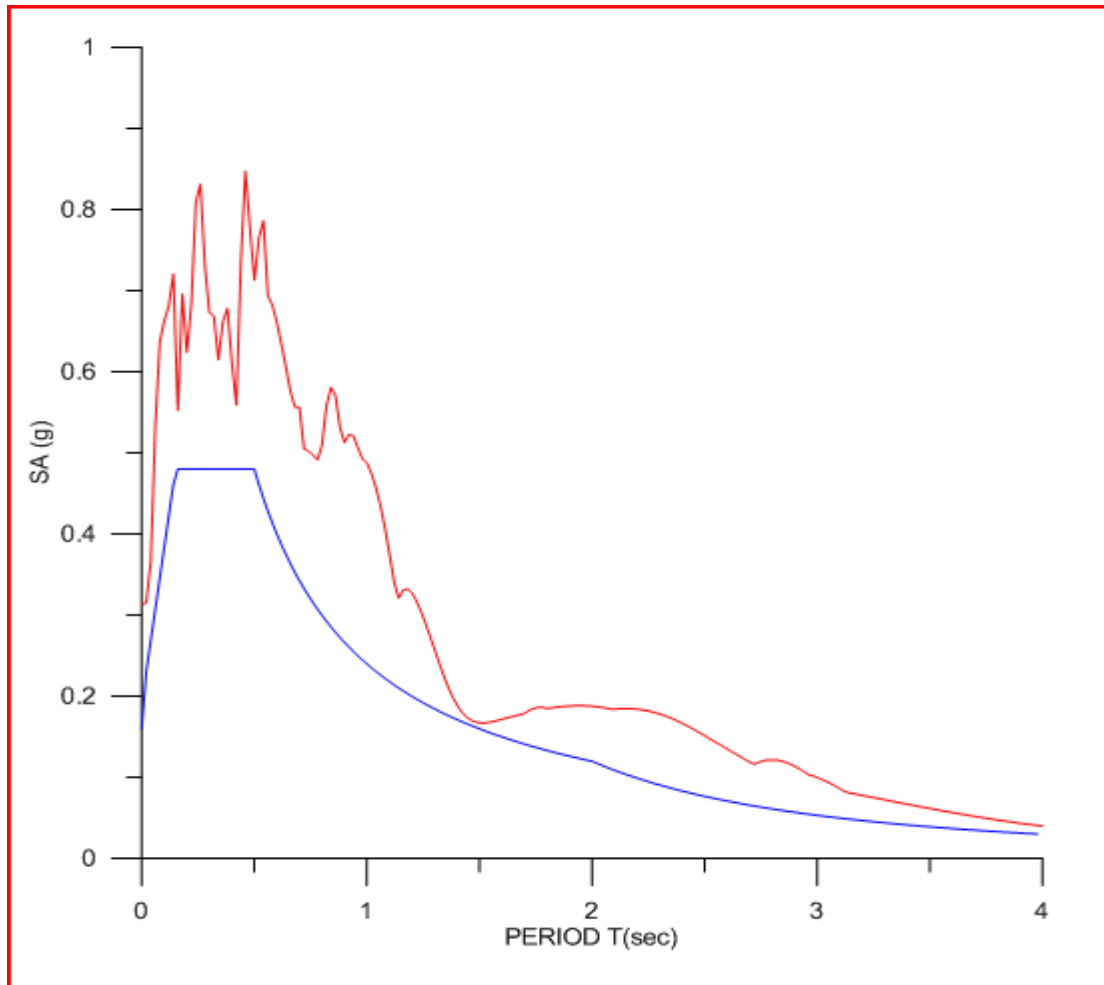
TARGET EC8 AND MATCHED 01113L ACCELERATION SPECTRA

EC8 SCALING PROVISIONS

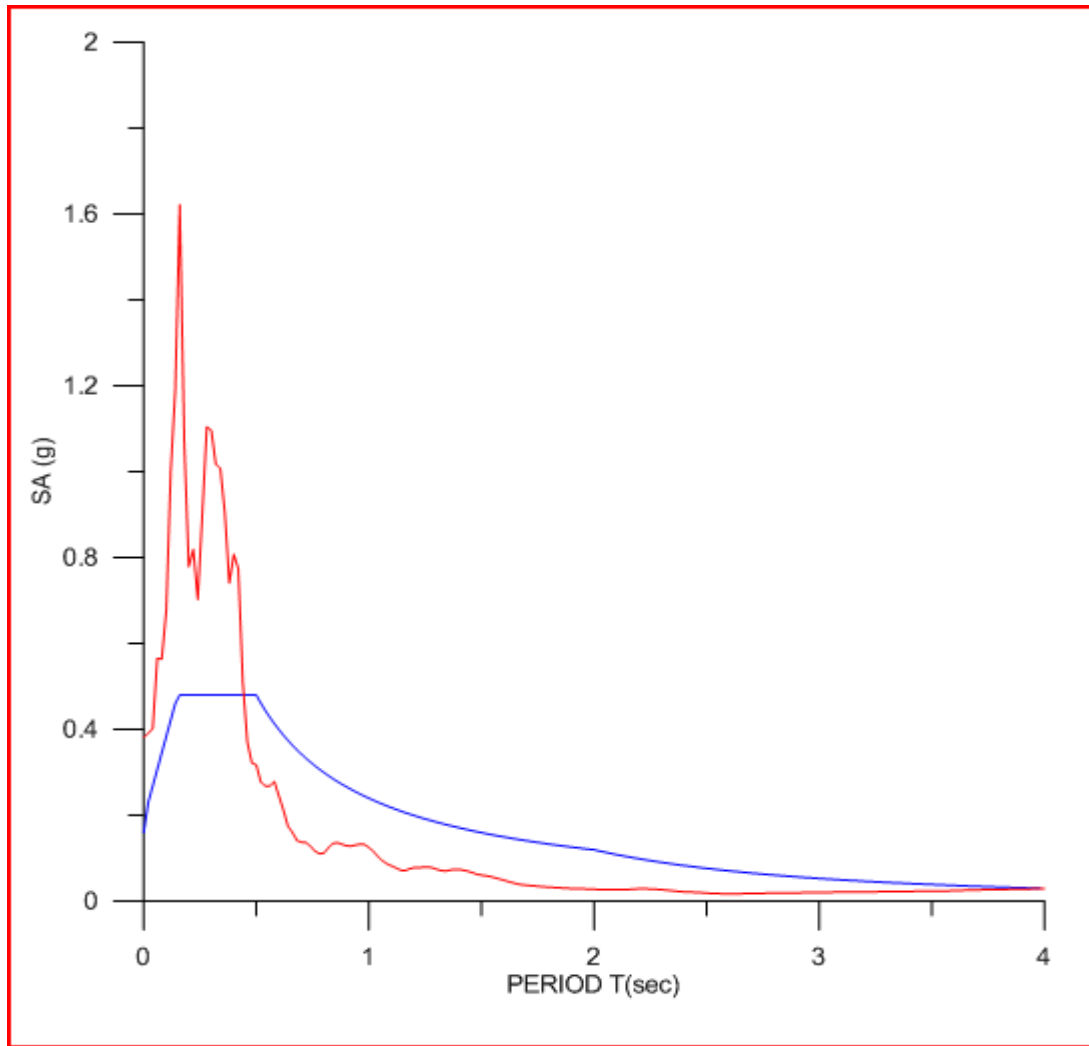
- a. *a minimum of 3 accelerograms should be used;*
- b. *the mean of the zero period spectral response acceleration values (calculated from the individual time histories) should not be smaller than the value of $a_g S$ for the site in question;⁶*
- c. *in the range of periods between $0,2T_1$ and $2T_1$, where T_1 is the fundamental period of the structure in the direction where the accelerogram will be applied; no value of the mean 5% damping elastic spectrum, calculated from all time histories, should be less than 90% of the corresponding value of the 5% damping elastic response spectrum.⁷*



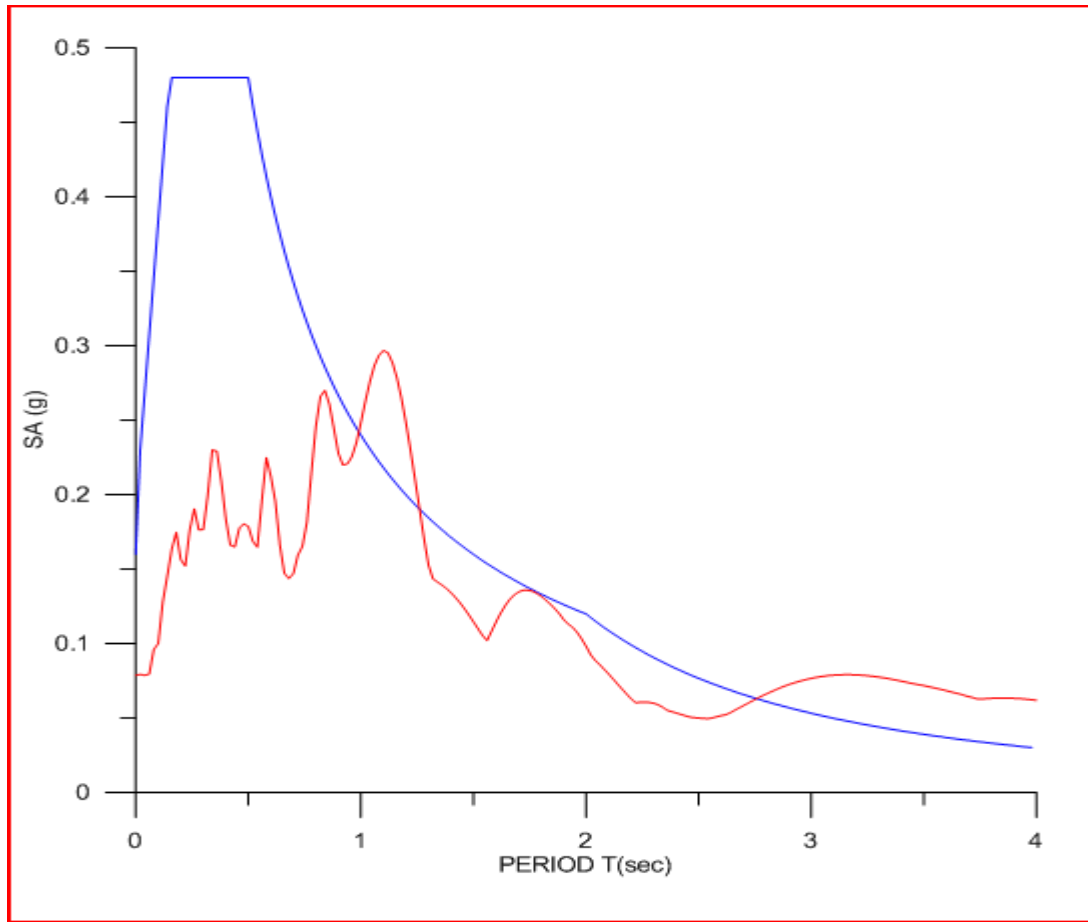
Regarding scaling provision c, for period 1.56 sec the mean spectral value is 0.1087 g instead of 0.1385 g. Accordingly, the records must be scaled by 1.274



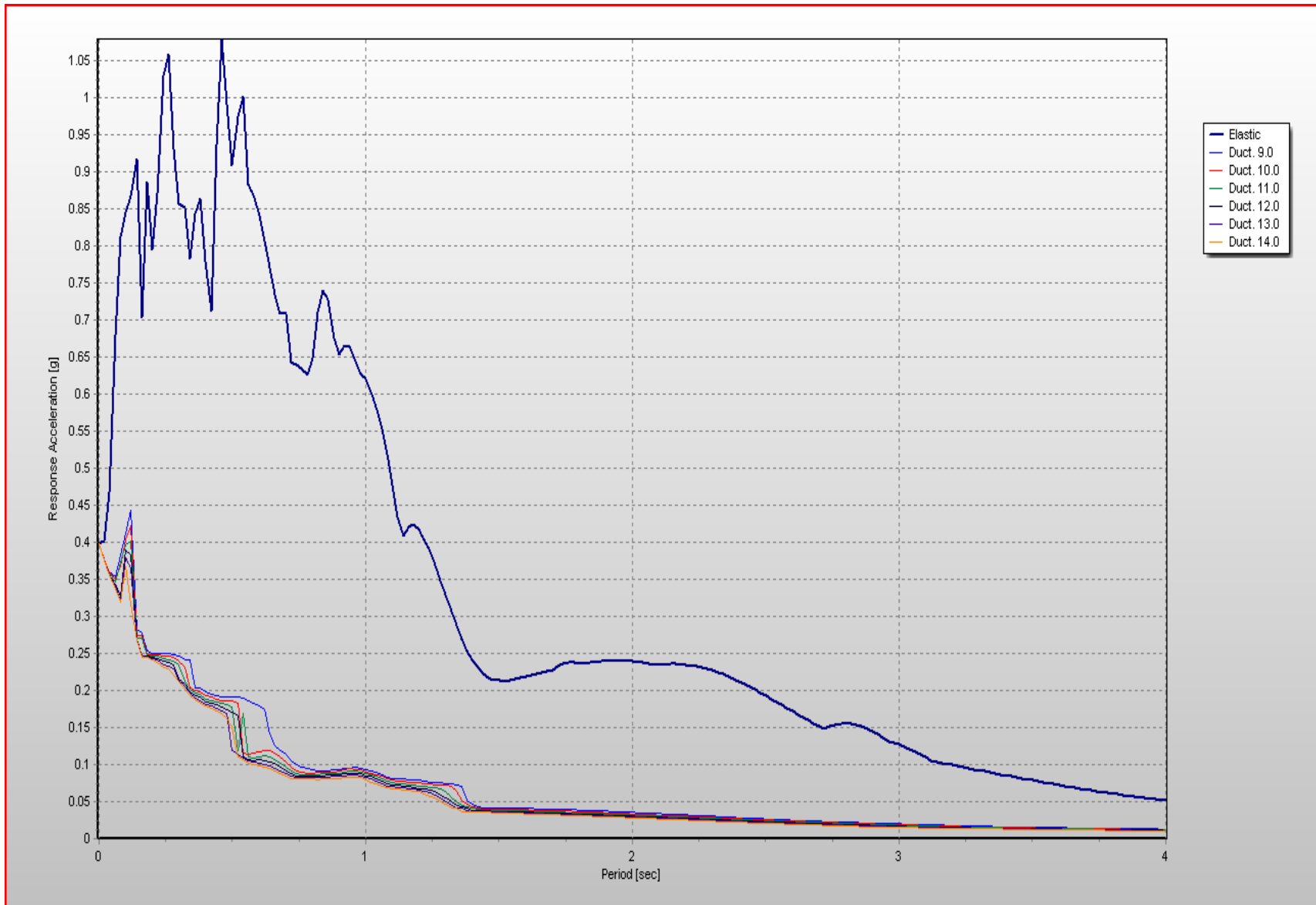
In order to scale the 00006L record to match the EC8 spectrum at 1 sec period the scale factor is $0.24 / 0.4875 = 0.492$



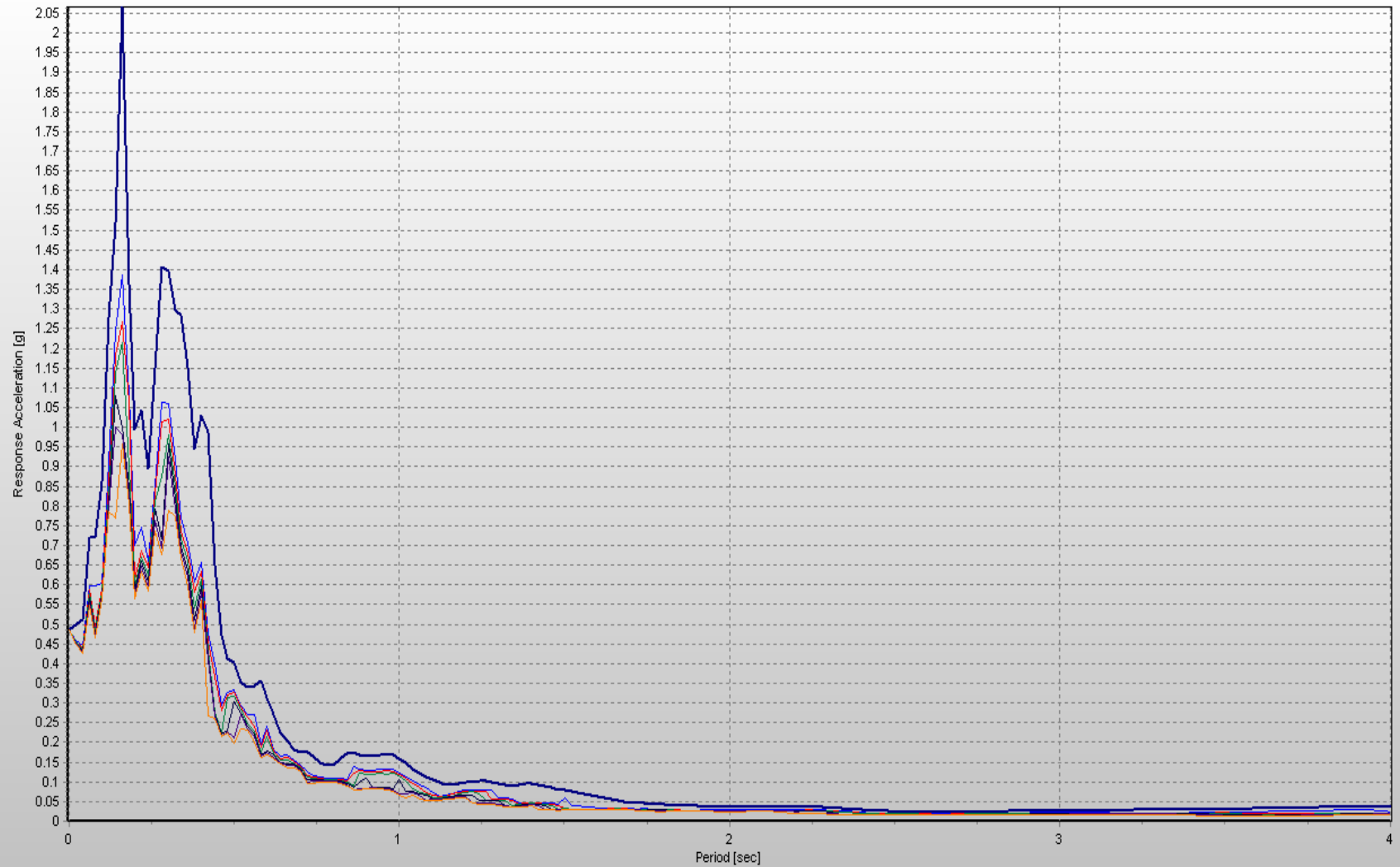
In order to scale the 00810T record to match the EC8 spectrum at 1 sec period the scale factor is $0.24 / 0.1255 = 1.9124$



In order to scale the 01113L record to match the EC8 spectrum at 1 sec period the scaling factor is $0.24 / 0.2487 = 0.965$



INELASTIC ACCELERATION SPECTRA FOR 00006L RECORD SCALED ACCORDING TO EC8
For $S_{ay}=0.08$ g q was found 7.76 and μ was about 14.



INELASTIC ACCELERATION SPECTRA FOR 00810T RECORD SCALED ACCORDING TO EC8
For $S_{Ay}=0.08$ g q was 1.998 and μ was found about 1.85