The code employed for the numerical simulations is named 'shell_model.f90', written in the Fortran language.

The initial conditions needed for the shell model are present in the file ‘condizioni_iniziali.dat’. The code could generate their initial conditions by activating the lines 56-58 in the code and inactivating lines 60-63, and it returns a file containing the updated initial conditions, ‘condizioni_iniziali_new.dat'.

The file 'parameters.txt' contains the parameter of the simulation.

The code returns preliminary data on interevent times in 'tau.dat' and on avalanche sizes in 'avalanche.dat'. The two data set are compressed in the present folder.

The code 'analisi.py', written in Python language, takes as input' tau.dat.' and 'avalanche.dat' and generates two files containing interevent times in 'interevent.dat' and sizes in 'size.dat'.

The folder 'figure_1' contains a datasheet, 'ene_data02', which contains four columns of data for iteration number, kinetic energy, dissipated energy and the difference between the kinetic energy at the given time and the previous one; this file can be obtained directly from the code 'shell_model.f90' by activating line 50 and 83. There is also a gnuplot script, 'figure_1.gnu', to recover the figure ‘figure_1.eps'.

The folder 'figure_3' contains two datasheets, 'k_interevent.dat' and ‘k_size.dat', containing the data on the probability density function of respectively interevent times and sizes. The probability distributions are obtained with kernel density estimation method from the logarithm of 'interevent.dat' and ‘size.dat’, with 99 points and a parameter sigma=0.1. The folder also contains a gnuplot script, 'figure_3.gnu', to recover the figure 'figure_3.eps'.