COMPLEX NETWORKS

LAB04: Dynamics on Complex Networks

In order to represent the value of <ρ> as a function of β , the following **Networks** have been used:

- Net1 = 'dolphins.net'   (real network)
- Net2 = 'ER1000k8.net'   (1000 nodes)
- Net3 = 'SF_500_g2.7.net'   (500 nodes)

The parameters used for the generation on the plots are the following:

- Tmax = 1000 (maximum number of time steps of each simulation)
- Ttrans = 900 (number of steps of the transitory state)
- p0 = 0.2 (initial fraction of infected nodes; 20%)

For Nrep (number of repetitions of the simulation) a value of 100 has been used for Net1 and Net2, and a value of 50 for the Net3.
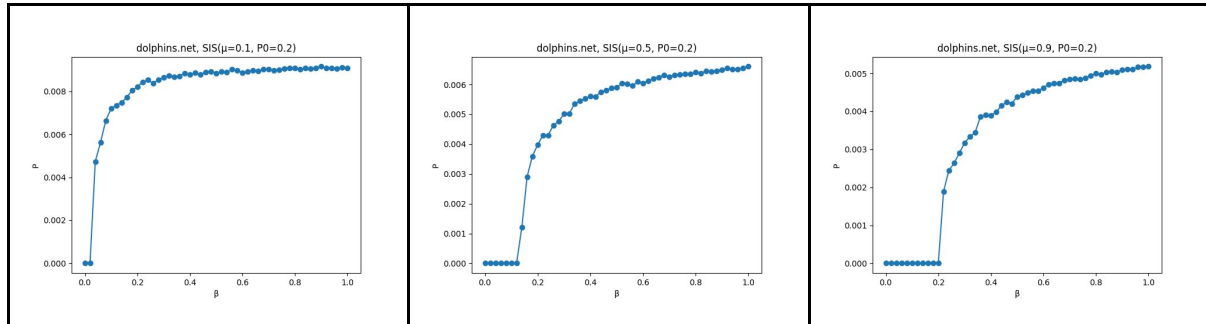
mu = 0.1, 0.5 and 0.9 (spontaneous recovery probability)
beta = 51 values from 0 to 1 (increases of 0.02) (infection probability of a Susceptible individual when is contacted with an Infected one)
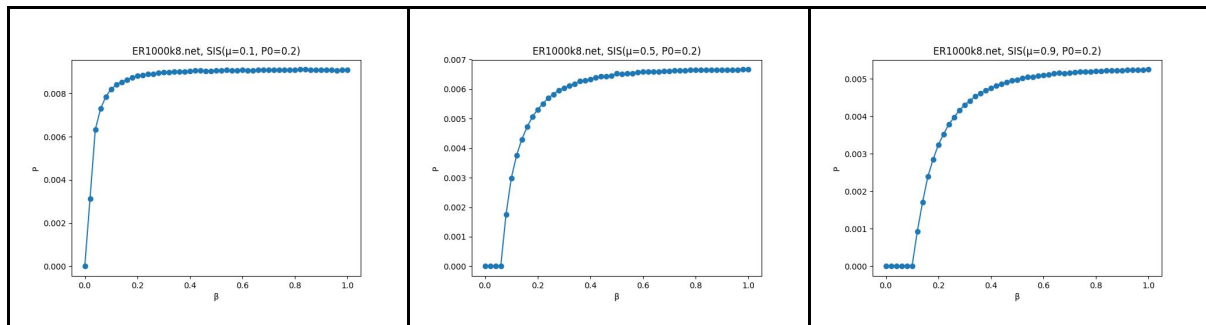
The **code** for the computing of the final spreading of the infection in the SIS model for the simulations and the plotting for the different Networks and parameters can be found in the CN_Lab04_OlgaValls.py file.

Plots

dolphins.net

ER1000k8.net

SF_500_g2.7.net