A Graph SEIR Cellular Automata Based Model to Study the Spreading of a Transmittable Disease

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Abstract : Cellular Automata are discrete dynamical systems which are based on local character and spatial disparateness of the spreading process. These factors are generally neglected by traditional models based on differential equations for epidemic spread. The aim of this work is to introduce an SEIR model based on cellular automata on graphs to imitate epidemic spreading. Distinctively, it is an SEIR-type model where the population is divided into susceptible, exposed, infected and recovered individuals. The results obtained from simulations are in accordance with the spreading behavior of a real time epidemics.