JING LI, The University of Western Ontario, Middlesex College, 1151 Richmond St. N., London, ON, N6A 5B7
Modeling the Latency and Spatial Non-Locality in Susceptible-Infectious Epidemic Models

With the assumptions that the infectious disease has a fixed latent period, and the exposed individuals are capable of moving around, we reformulate the SI models under the discrete spatial space called patches. Some ordinary differential system models over patches with delay representing the latency of the diseases and the dispersion accounting for the mobility of the population between the patches are obtained. We will show how the disease latency and population mobility jointly affect the dynamical behaviour of the diseases by using mathematical analysis and computer simulations.