

Complex spatiotemporal dynamics of simple epidemic models

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Mathematical epidemiology is concerned with the spread of infectious diseases. Motivated by the propagation of the Feline Immunodeficiency Virus (FIV) in feral cat populations, a general reaction-diffusion model is constructed. Individuals are assumed to be susceptible (S) or infected (I), yielding a simple SI-model. The population growth may either be logistic or exhibiting an Allee effect. Numerical simulations of