

Spreading of infectious diseases in population is one of many phenomena that can be described using differential equations. In this bachelor thesis, we deal with epidemiologic models SEIR, SIR respectively. First, we formulate models SEIR and SIR and then examine the properties of their solutions - existence, uniqueness, boundedness. We show that the solution of SEIR can be converted to the solution of SIR. After that we pursue dynamics of SIR model - we examine the stability and type of the stationary points with respect to values of the parameters.