Stability Analysis of SEIR Epidemic Model with Treatment Function

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Abstract : The treatment function adopts a continuous and differentiable function which can describe the effect of delayed treatment when the number of infected individuals increases and the medical condition is limited. In this paper, the SEIR epidemic model with treatment function is studied to investigate the dynamics of the model due to the effect of treatment. It is assumed that the treatment rate is proportional to the number of infective patients. The stability of the model is analyzed. The model is simulated to illustrate the analytical results and to investigate the effects of treatment on the spread of infection.