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*A new type function for constructing Lyapunov functions*

Lyapunov direct method is an effective method to determine the question about stability when it works. However, there exists no general approach for constructing the needed Lyapunov functions. In this talk, we provide a new type function to construct Lyapunov functions. When applied to an SI epidemic model with a nonlinear incidence, the obtained sufficient condition on the global stability of the endemic equilibrium is weaker than the one obtained by using the traditional Volterra-type function.