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Bionomics dynamic system for epidemic virus transmission. (Chinese. English summary)

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Summary: A nonlinear dynamic system of the epidemic contagion transmission is studied by using the asymptotic theory in modern mathematical physics. Firstly, a dynamic model of the epidemic contagion transmission is established, which is a system of differential equation. Next, a set of functional analytic homotopic mapping is led. Then the solution of dynamic system model for a power series with an artificial parameter is substituted. Their asymptotic solutions of the dynamic system are solved successively.

MSC:

- 34C60 Qualitative investigation and simulation of ordinary differential equation models
- 34D05 Asymptotic properties of solutions to ordinary differential equations
- 92D30 Epidemiology
- 92C60 Medical epidemiology
- 34A25 Analytical theory of ordinary differential equations: series, transformations, transforms, operational calculus, etc.

Keywords:

dynamic system; epidemic contagion model; HIV virus