عنوان مقاله:

Linear B-spline finite element Method for solving delay reaction diffusion equation

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خلاصه مقاله:

This paper is concerned with the numerical treatment of delay reaction-diffusion with the Dirichlet boundary condition. The finite element method with linear B-spline basis functions is utilized to discretize the space variable. The Crank-Nicolson method is used for the processes of time discretization. Sufficient and necessary conditions for the numerical method to be asymptotically stable are investigated. The convergence of the numerical method is studied. Some numerical experiments are performed to verify the applicability of the numerical method.

کلمات کلیدی:

Delay reaction diffusion equation, Crank Nicolson, Linear B-spline, finite element method, Asymtotic stability, Convergence