

عنوان مقاله:

Numerical treatment for a multiscale nonlinear system of singularly perturbed differential equations of convection-diffusion type

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خلاصه مقاله:

In this article, a multiscale nonlinear system of singularly perturbed differential equations of convection-diffusion type is considered. A numerical technique combined with the continuation method is constructed to obtain the numerical computations. The newly developed numerical method is shown to be first order convergent uniformly with respect to the perturbation parameter.

کلمات کلیدی:

Multiscale nonlinear system of singularly perturbed differential equations, boundary layers, finite difference scheme, Shishkin mesh, the continuation method, parameter-uniform convergence

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