



**MATHEMATICAL AND NUMERICAL RESOLUTION
OF THE CONVECTION-DIFFUSION
PROBLEM**

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Abstract

The aim of this paper is to solve the convection-diffusion problem of solution $u = u(x, t)$ by the finite difference method, to study the analytical stability in $L^2([0, 1])$, to calculate the method truncation error and to study the convergence of the so called method.

Keywords and phrases: convection-diffusion problem, truncation error, stability, convergence, finite difference method.

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