On a Distributed Algorithm for the Solution of Nonlinear Transient Parabolic Problems

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ABSTRACT

A distributed algorithm is described of solving nonlinear transient parabolic problems. A linearization method based on updating the nonlinear coefficients within an iterative loop is applied to the continuous problem. The distributed algorithm is derived from a Laplace transform of the linearised differential equation followed by a numerical inversion of the solutions of the Laplace transformed equations.

Keywords: Distributed algorithm, nonlinear transient parabolic problems, nonlinear conductivity.

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