

## ABSTRACT

A method for the numerical solution of a system of coupled, nonlinear elliptic partial differential equations is described, and the application of the method to the equations governing steady, laminar natural convection is presented. The essential feature of the method is the conversion of the equations to a parabolic form by the addition of false time derivatives, thus, enabling a marching solution, equivalent to a single iterative procedure, to be used. The method is evaluated by applying it to a well known two-dimensional problem and some examples of its use in three dimensions are given.