THE EFFECT OF GRID IRREGULARITY ON TRUNCATION ERROR FOR DISCRETISATIONS OF LAPLACE'S EQUATION

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ABSTRACT

The discretization of differential equations to obtain numerical solutions introduces truncation error. The form of the truncation error depends on the differential equation, the discretization scheme, and the discretization grid in a fairly complicated fashion. The character and magnitude of the truncation error determines in part the discrepancy between the approximate and exact solutions to the patial differential equations. In this study is presented a investigation of calculus methods for Laplace's equations (the centred finite difference method, the implicit interpolation method).

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