APPLICATION OF FINITE DIFFERENCE METHOD(FDM) AND FINITE ELEMENT METHOD(FEM) IN SOLVING HEAT PROBLEM

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ABSTRACT

Finite difference method and Finite element method is known as numerical method to solve heat problem. It has been used widely in the real world, especially in the engineering field. The main goal of this research is to find the best method to solve 2D regular geometry heat transfer between Finite difference method (FDM) and Finite element method (FEM). The problem that has been used in this research is steady state heat transfer. MATLAB is used to computing whole calculation and plotting the temperature distribution graph. The result obtained recommend that Finite element method is the most accurate method to solve 2D steady-state heat problem since it has larger area of blue region in error distribution figure.

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