

**COMPARISON BETWEEN THE ADOMIAN DECOMPOSITION
METHOD (ADM) AND FOURTH ORDER RUNGE KUTTA
METHOD TO SOLVE STEFAN PROBLEM**

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ABSTRACT

One phase Stefan problem is presented by the solution. A Stefan's task is the first approximated with a system of ordinary differential equations. A comparison between the Adomian Decomposition Method (ADM) and the fourth-order Runge-Kutta (RK4) method for solving this system is presented. The results obtained that are presented in a few terms are required an approximate found to accurate and efficient. The validity of the approach is verified by comparing the results obtained with the analytical solution. The comparative results analysis of these methods is based on the number of errors.

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