



**A CLASSICAL RUNGE KUTTA METHOD
OF ORDER 5**

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Received August 31, 2019; Revised September 14, 2019

Abstract

The methods of Runge-Kutta of order 5 for differential equations are very difficult to determine given the volume of equations of nonlinear systems and variables. The variable choices are the most delicate. In this article, a new approach for the determination of coefficients is introduced. This approach is based on Lagrange interpolation and allows to find some coefficients automatically. The other coefficients are determined with the shortest volume of equations.

Keywords and phrases: Runge-Kutta, differential equations, Lagrange interpolation.

**Pioneer Journal
of Mathematics
and Mathematical
Sciences**



**Pioneer Scientific
Publisher**