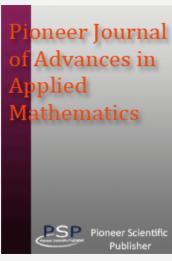# CONSTRUCTION AND INVESTIGATION OF A FOURTH ORDER RUNGE-KUTTA METHOD

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Abstract

The construction of a Runge-Kutta method needs the derivation and solution of equations called order conditions. Such a procedure is a tedious task since the number of the nonlinear order conditions to be solved increases as the order of a method increases. This paper deals exclusively for the step by step derivation of the fourth order Runge-Kutta method since the calculations are notoriously heavy and can hardly be found in many literatures for easy reference to students or scientists.

Pioneer Journal
of Advances in
Applied
Mathematics

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