

ADAPTIVE STEP SIZE NUMERICAL SOLUTION TO FIRST ORDER  
ODES, A REFINEMENT OF EULER'S AND RK METHODS

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### Abstract

Solving differential equations numerically is a subject that employs a multitude of methods each suitable for certain class of equations. Herein we report a new approach for solving first order ODE numerically that can be considered to be a refinement to Euler and RK methods. Instead of using fixed step sizes as employed in these methods, our method estimates the suitable step size based on an evaluation of the second derivative of the solution curve at or in the vicinity of the iteration point

**Keywords:** Differential equations, Numerical, Step size

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