

**COMPARISON OF THIRD ORDER EXPLICIT RUNGE-KUTTA
METHODS (HEUN'S, RALSTON'S, SSPRK3, AND RK3
METHOD) IN SOLVING THE ODE WITH IVP**

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ABSTRACT

Hence, in this research, Heun's Third Order method, Ralston's Third Order method, Strong Stability Preserving Runge-Kutta Third Order (SSPRK3) method, Runge-Kutta Third Order (RK3) method are the four numerical methods that were compared to solve numerically first order ordinary differential equation (ODE) with initial value problem (IVP). Exact ODE, linear ODE, Bernoulli's ODE, substitution ODE are the four types of first order ODE that will have a test function with IVP. While the exact solution for every test function were solved analytically.

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