

Review of: "New Computational Methods Using Seventh Derivative Type for the Solution of First Order Initial Value Problems"

Su Hoe Yeak¹

¹ Universiti Teknologi Malaysia

Potential competing interests: No potential competing interests to declare.

For page 3, from eq(3) to eq(7), please edit the starting index.

In order to derive the Taylor expansion in eq(26), we need a brief derivation, especially for the vector form of the Taylor series.

In page 8, for zero stability, please briefly explain the assumptions used. For eq(28), please briefly explain whether it is an inequality or an equation, whether it involves a norm, absolute value, or determinant measurement.

For section 3.5 (linear stability), please correct the linear test equation. Please briefly explain what a shift operator is.

Eq(30) indicates a stability polynomial; please explain why the following equation didn't apply the modulus operator.

Please write explicitly whether $|M| < 1$ or any inequality that applies.

For eq(32), since it is a Newton method in a system, hence eq(31) is inappropriate. Please check the location of the inverse of the Jacobian matrix (whether to pre-multiply or post-multiply).

Please correct the vector function $f(y)$ after eq(33).

Please correct the Newton iteration part in Algorithm I (page 12).

In your problems, some problems are not stiff. Please briefly define the stiff IVP definition.

About the efficiency graphs, please explain what the horizontal axis variable is. $\log(x)$?