

Review of: "A Novel Computational Approach for Solving Fully Implicit Singular Systems of Ordinary Differential Equations"

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Potential competing interests: No potential competing interests to declare.

The paper is novel in its present form.

This paper presents a novel computational approach to solve fully implicit singular nonlinear systems of ordinary differential equations.

These systems have a two fold difficulty: being fully implicit and singular at the same time. Such systems cannot be solved in general by software packages such as Maple due to their fully implicit structure. Furthermore, numerical methods like Runge-Kutta cannot be applied.

The proposed method here is based on the idea of applying the differential transform method (DTM) directly to these systems while exploiting an important property of Adomian polynomials.

This paper has provided a direct approach of DTM to handle the difficulty posed by the system of ODEs under consideration that can not be solved by conventional methods or software packages.