

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

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<sup>1</sup> Amazon

Potential competing interests: No potential competing interests to declare.

Overall, it's a good read.

The work utilizes Adomian polynomials to expand both the state variable and the nonlinear function  $F$  and then recursively solves two nonlinear classes of implicit first and second order singular systems of ordinary differential equations. The method is sound and validated against four implicit singular ODE systems where exact solutions exist.

However, the work did not do much studies on convergence analysis - eg. will the asymptotic series be guaranteed to approximate the exact solution? Are there radius of convergence? And what is the approximation rate? etc.