

**SOLVING SYSTEMS OF FRACTIONAL DIFFERENTIAL
EQUATIONS USING CONFORMABLE FRACTIONAL
DIFFERENTIAL TRANSFORM METHOD**

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Abstract: We extend a novel three-dimensional differential transform technique generalisation. The three-dimensional differential transform technique, fractional power series expansions, and conformable fractional derivative are used in the novel generalisation. The novel approach is used to solve a nonlinear system of fractional differential equations. Finally, numerical examples are shown to demonstrate the precision and efficacy of the new methodology, as well as to compare it to the solution derived using the previous method. In addition, solutions are graphically analysed using Python software.

Keywords and Phrases: Fractional Differential Equation, Conformable fractional derivative, Differential transform method.