Solving Fully Fuzzy Non Linear Equations in Mathematical Model of Fluid Mechanics using Hybrid Chaos Optimization Algorithm and Double Newton Raphson Method

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Abstract.

In this article, we study a solution of fully fuzzy equations involving triangular fuzzy number which arising from fluid mechanics phenomena using numerical approach. We convert the mathematical model in crisp equation form and we construct an optimization problem based on the equation. Then, the optimization problem is solved using hybrid method between Chaos Optimization Algorithm and Double Newton Raphson Method. The results obtained show that the approximate solution in agreement to the solution obtained by previous research.

Keywords: fully fuzzy equations; triangular fuzzy number; optimization problem; Chaos Optimization Algorithm; Double Newton Raphson Method