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Caputo-Type Fuzzy Fractional Riccati Differential Equations with Fuzzy Initial Conditions

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Abstract : This paper deals with the solutions of fuzzy-fractional-order Riccati equations under Caputo-type fuzzy fractional derivatives. The Caputo-type fuzzy fractional derivatives are defined based on Hukuhura difference and strongly generalized fuzzy differentiability. The Laplace-Adomian-Pade method is used for solving fractional Riccati-type initial value differential equations of fractional order. Moreover, we also displayed some examples to illustrate our methods.

Keywords : Caputo-type fuzzy fractional derivative, Fractional Riccati differential equations, Laplace-Adomian-Pade method, Mittag Leffler function

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