A NEW STUDY OF FRACTIONAL-ORDER FINANCIAL SYSTEM VIA HOMOTOPY ANALYSIS

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Abstract. We are concerned in this paper by a dynamic model in Finance governed by a fractional derivative in the sense of Caputo. We prove the existence and uniqueness of the solution, and provide an approximation formula of the solution using the homotopy analysis. Then we examine the equilibrium states. This approach is new and complements recent work which presents only numerical simulations of the model.

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