

Role of a Memory Function in the Generalized Alcoholic Model with ABC Fractional Derivative

MUHAMMAD IMRAN ASJAD¹, Waqas FARIDI², and Zuhaa Binte Tahir³

¹University of Management and Technology Lahore

²University of Management and Technology, Lahore, Pakistan

³University of Management and Technology Lahore, Pakistan

October 22, 2020

Abstract

This paper deals with mathematical analysis of a generalized fractional alcoholic model. The present model is constructed by the Atangana-Baleanu fractional operator with the memory function, which is utilized for the generalization of alcoholic model. The used memory function provides the information on entire domain of model except the initial stage. The existence of solution is verified by Picard iterative method and uniqueness of solution is also proved.

Hosted file

Manuscript.pdf available at <https://authorea.com/users/369360/articles/488236-role-of-a-memory-function-in-the-generalized-alcoholic-model-with-abc-fractional-derivative>