

Solution of Modified Bergman's Minimal Blood Glucose Insulin Model Using Caputo- Fabrizio Fractional Derivative

RAVI DUBEY¹, Dumitru Baleanu², Manvendra Mishra³, and Pranay Goswami⁴

¹Amity University Rajasthan

²Cankaya University,

³Amity University Jaipur

⁴School of Liberal Studies, School of Liberal Studies, Ambedkar University Delhi-110006, India

July 11, 2020

Abstract

In the current research work, we are going to discuss the Modified Bergman's Minimal blood glucose-insulin model. We are restructuring the old model by including one more component known as diet, which is also very essential for blood glucose model. Many years ago the minimal model was defined which explain the relation between blood glucose and insulin level, and after that a lots of work and research has been done on it. We define the fractional model to show the strength of Caputo-Fabrizio fractional derivative and also examined the existence and uniqueness of the result along with its numerical and graphical representation.

Hosted file

blood.pdf available at <https://authorea.com/users/330628/articles/468800-solution-of-modified-bergman-s-minimal-blood-glucose-insulin-model-using-caputo-fabrizio-fractional-derivative>







