

Analysis of an Epidemic Model using Variational Iteration Method

Ajay Kumar Agrawal* and Yogesh Gupta

Department of Mathematics, Jaypee Institute of Information Technology, A-10, Sector-62,
Noida-201309, Uttar Pradesh, India

*Corresponding author's e-mail: ajaymath.85@gmail.com

ABSTRACT

This paper analyses an epidemic model using the modified variational iteration approach. The data of reported cases were used to parameterize the model and determine the number of unreported instances. A new investigation is performed using the suggested epidemic covid model for unreported instances. A solution in series is produced within the framework of the Caputo derivative for the investigated system exemplifying the coronavirus model. Figures depicting the behavior of the projected model are used to explain the obtained results. The conclusions suggest that the employed technique for the simultaneous nonlinear equations is highly emphatic and straightforward to execute. Furthermore, the current research may confirm the applicability and impact of fractional operators on many applications of real life problems.

Keywords: Coronavirus, Reported and unreported cases, Caputo derivative

How to Cite

A. K. Agrawal and Y. Gupta, "Analysis of an Epidemic Model using Variational Iteration Method", *AIJR Abstracts*, pp. 55–55, Feb. 2024.

