



## Optimal Control of SARS Disease via Fractional Model

Mohammed S. Kadhim, Sanaa L. Khalaf\*, Mohammed A. Ibrahim

Department of Mathematics, College of science, University of Basrah, Basra, Iraq.

\*Corresponding author E-mail: [sanaasanaa1978@yahoo.com](mailto:sanaasanaa1978@yahoo.com)

### ARTICLE INFO

#### ABSTRACT

**Keywords** Severe acute respiratory syndrome (SARS) is a very dangerous disease that affects the human respiratory system. In this article, we discuss the optimal control of this disease via a fractional SVEIR epidemic model together with two control variables (treatment and vaccination). For this purpose, we first design a fractional optimal control problem and then apply Pontryagin's minimal principle in a fractional version to find the optimal control. Also, the forward and backward fractional Euler methods (FEM) are used to solve the state and co-state equations, respectively. The results gave a new treatment and vaccine strategy for breaking dawn and preventing the spread of SARS.

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