

# **EXISTENCE AND UNIQUENESS RESULTS FOR A NONLINEAR INTEGRAL EQUATION RELATED TO INFECTIOUS DISEASE**

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Abstract:

A nonlinear integral equation related to infectious disease is investigated. Using a fixed-point theorem for convex-concave and nondecreasing operators defined in a Banach space with a normal solid cone, we derive some existence and uniqueness results of positive solutions to the considered equation. Moreover, an iterative algorithm that converges to the unique solution is provided. Our results are supported by examples.