Existence and Uniqueness of Solution for Fuzzy Integral Equations of Product Type

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Abstract

In this paper, we study the fuzzy Fredholm integral equations of product type. As a special case, integral equations of product type arise, e.g., in the study of the spread of an infectious disease that does not induce permanent immunity. Because of the importance and practicality of such integrals, we prove the existence and uniqueness of the solution of these integral equations with the help of the Banach fixed point theorem. Finally, we obtain an error estimation between the exact solution and the solution of the iterative method. Examples show the applicability of our results.

Full Text

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