

Mathematical Fuzzy Analysis: Recent Achievements and Applications

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November 2021

Mathematical fuzzy analysis manifests itself as a system of calculi, using the universes of fuzzy sets. It appears in fuzzy metric spaces, fuzzy topological spaces, fuzzy functional analysis, etc. Fuzzy-number-valued functions (fuzzy functions, for short) have recently been used to simulate various dynamic processes where either actual values are not available or are affected by noise or other sources of imprecision.

Dynamic processes over fuzzy functions are usually described by corresponding differential and integral equations. These are becoming the focus of modern research due to their ability to model time-delayed processes, such as the spread of infectious diseases, the growth of tumors, etc.

The goal of this session is to bring together researchers interested in recent advances in mathematical fuzzy analysis and its applications.

Topics in this special session include, but are not limited to the following list:

- Fuzzy metric spaces
- Inverse problems
- Differentiability of fuzzy-valued functions
- Fuzzy integrals
- Theory of fuzzy differential equations and applications
- Fuzzy differential inclusions
- Fuzzy optimization problems