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On two particular fuzzy numbers derived from probability distributions

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Abstract

In this paper, we consider two fuzzy numbers derived from the Gaussian and the lognormal probabilistic distributions. These numbers could be used to study complex stochastic problems in a simplified fuzzy setting. Therefore, some results on their α-cuts, powers and crisp expected values are obtained.

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1 Introduction

Introduced simultaneously by Zadeh and Klaua in 1965 as an extension of the classical notion of set, fuzzy sets are sets whose elements have degrees of membership; this is described with the aid of a membership function valued in the real unit interval $[0, 1]$.

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