Entropy for Characterization of Uncertainty in Risk and Reliability

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Message from the Guest Editors

Dear Colleagues,

Uncertainty characterization in risk and reliability has been addressed based on different approaches such as Bayesian thinking, possibilistic theory and fuzzy logic. Entropy has emerged as a promising approach due to its flexibility in representing uncertainty based on a multitude of evidence types as well as on different domains of application. Information entropy, maximum entropy and thermodynamic entropy have been the focus of current research clearly indicating the enormous scope and potential of entropy based uncertainty characterization and applications to several fields such as structural integrity and prognostics and health management. This special issue invites original papers on theoretical development in Entropy Based Uncertainty Characterization in Risk and Reliability as well as their applications in areas such as Probabilistic Physics of Failure, Structural Integrity, Prognostics and Health Management, Degradation and Damage Modeling, and Entropy Theory of Aging.

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Guest Editors

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SpecialIssue

Editor-in-Chief

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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