

Special Issue

Multiscale Entropy Approaches and Their Applications

Message from the Guest Editor

Multiscale entropy measures have been proposed from the beginning of the 2000s to evaluate the complexity of time series, by taking into account the multiple time scales in physical systems. Since then, these approaches have received a great deal of attention and have been used in a large range of applications.

Multivariate approaches have also been developed. The algorithms for a multiscale entropy approach are composed of two main steps: i) a coarse-graining procedure to represent the system's dynamics on different scales; ii) the entropy computation for the original signal and for the coarse-grained time series to evaluate the irregularity for each scale. Moreover, different entropy measures have been associated with the coarse-graining approach, each one having its advantages and drawbacks: approximate entropy, sample entropy, permutation entropy, fuzzy entropy, distribution entropy, dispersion entropy, etc. In this Special Issue, we would like to collect papers focusing on both the theory and applications of multiscale entropy approaches. Any kind of entropy measure is considered (see above).

Guest Editor

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About the Journal

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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