

Renyi extropy: A generalization of information extropy

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Abstract

In this paper, we have introduced Renyi extropy, the dual concept of one parametric Renyi entropy and have discussed its several meaningful properties like it is both positive and negative with specified range of its parameter; Renyi extropy reduces to information extropy for the limiting values of its parameter; if a probability space has two events, then Renyi extropy equals to Renyi entropy. We have also studied the relationship between Renyi extropy with information extropy and one parametric Tsallis extropy measures. In order to highlight the effectiveness of extropy measure, we plan to work out its application to analyse the uncertainty in the cryptocurrency market.

Keywords

Uncertainty, Extropy, Maximum extropy, Tsallis extropy, Renyi extropy, Cryptocurrency.

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