
Some information measures of power-law distributions

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When the probability of measuring a particular value of some quantity varies inversely as a power of that value, the quantity is said to follow a power law. Power laws can be seen very frequently in physics, biology, earth and planetary sciences, economics and finance, computer science and the social sciences. In this paper, several important information measures of power-law distributions are calculated with continuous random variables such as differential entropy, information divergence and Fisher information.

Key words: Differential entropy, Fisher information, information divergence, power-law distributions

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