

International Conference and Advanced Workshop on Modelling and Simulation of Complex Systems



Contribution ID: 40

Type: **not specified**

Information theoretic analysis of ArXiv's physics abstracts

Tuesday, 28 May 2024 16:55 (10 minutes)

The abstract gives the first impression of the manuscript. How much information or complexity is contained in the abstract? In this study, the amount of information in ArXiv's physics abstracts was characterized using Shannon entropy. The variation of abstract entropy with respect to the number of authors, abstract length, and year was considered. The entropy of the abstract was found to have a linear relationship with the number of authors between 1 and 24. With authors between 1 and 24, there were significant variations and outliers in entropy values. A slight increase has been observed in abstract entropies in recent years. In the relationship between the length of the abstract and the entropy, three regimes were identified. The results obtained in this study will be helpful in making editorial decisions to improve the quality of abstracts.

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Session Classification: Technical session 4

Track Classification: Technology: Information and Communication Technology