

Finding the best q for highest information retrieval in discrete systems

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Minimization of entropy can be used to measure information in a given system, and it has been shown in the last decades that organized systems can be best studied with the Tsallis entropy. With that entropy it is possible to increase the rate of information analysis in such systems, but it poses the question of which is the best non extensive q parameter for each type of system.

In this work, it is shown how to find analytically such value, for systems with a discrete set of possible quantities (number of degrees of freedom). As an example, we apply the results for the study of gene expression networks. We show that previous, empirical results, can be found directly with the proposed method.