Generalized entropy of induced zero-entropy systems

Gabriel Lacerda[1]

[1] Universidade Federal do Rio de Janeiro

Every dynamical system defined on a measurable space admits an extension to the space of probability measures, called the induced dynamics. A classic result, proven by Glasner and Weiss, states that the extended system has zero entropy if, and only if, the original system also has it. Therefore, entropy is not a good tool to distinguish the complexity of these two dynamics. Thus, it is necessary to resort to a more refined concept, called generalized entropy. In this context, I demonstrate in an original result that the induced dynamics is much more complex than the original system.