Entropy and Information in the Foundation of Quantum Physics

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Message from the Guest Editor

Dear Colleagues,

Recent ideas regarding the emergent nature of quantum mechanics and the well-known relationship between black hole entropy and quantum thermodynamics, suggest a deep connection between the fundamental laws of physics, information and information loss on different levels. In particular, the entropic approach suggests a new perspective in quantum mechanics’ foundation, especially with regard to the probabilistic nature of quantum variables. These ideas also have an elegant geometric representation in the phase space, they offer a new kind of visualization of quantum phenomena.

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Guest Editor

Special Issue

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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