Special Issue

Quantum Spacetime and Entanglement Entropy

Message from the Guest Editor

The philosophical concept of quantum spacetime and its ontological nature are not clearly defined. Consequently, a deep understanding of the physical and/or mathematical structure of quantum spacetime is still missing. There have been several different attempts to build a theory of quantum spacetime (quantum gravity) among which string theory, loop quantum gravity, and noncommutative geometry, but the only point they agree on is that quantum spacetime should "occur" at about the Planck scale. Quite recently, a new perspective arose, that of looking at a possible quantum computational spacetime. In this context, it may happen that spacetime itself is entangled. Then, entanglement entropy would become an important feature of a possible theory of quantum gravity.

Guest Editor

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