Maria Gieysztor, ”Quantum discord in bipartite 2 & 3 level systems”

Report of Contributions

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Quantum discord in bipartite 2 & 3 level systems

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Considering composite quantum systems one can ask whether the system behaves in a classical or quantum way. This is related to the type of correlations between their subsystems. I will start my presentation with introducing the classification of composite quantum systems and in the following parts I will elaborate mainly on the quantum correlations. I will explain the notion of quantum discord as a measurement induced informational measure of quantum correlations and discuss it's properites. Moreover, methods for quantum discord investigation in bipartite two-level systems will be presented along with the difficulties arising when moving to higher level systems.

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