
Compatibility problems in quantum information: examples and algorithms

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Résumé

Deciding the existence of a quantum system satisfying some observed input-output behaviour is an important question arising in many areas of quantum information. I will discuss two problems that involve variants of such compatibility questions. The first problem is about the effect of entanglement for information transmission in the presence of noise. The second problem is about the local behaviour of equilibrium states of quantum local Hamiltonians. In both cases, I will focus on designing (classical) algorithms.

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