Chair of Communications Engineering
TUM Department of Electrical and Computer Engineering
Technical University of Munich

Master's Thesis

[quantum] Entanglement-measures upper bounds on device-independent distillable key

The goal of this work is to try to upper bound the device-independent distillable key in terms of locally restricted relative entropy of entanglement (an entanglement measure).

The following are relevant works/articles

- works toward even *a definition* of device independent distillable key
  https://arxiv.org/abs/2005.13511
  https://arxiv.org/abs/2005.12325
  https://arxiv.org/abs/1810.05627
- works relating distillable entanglement and distillable key to locally restricted relative entropy measures
  https://arxiv.org/abs/1609.04696
  https://arxiv.org/abs/1402.5927
- the first definition of restricted relative entropies
  https://arxiv.org/abs/0904.2705
- important properties of restricted relative entropies, and some overview of entanglement measures
  https://arxiv.org/abs/1210.3181
- my PhD thesis
  http://web.math.ku.dk/noter/filer/phd18rf.pdf

Prerequisites

Strong background in quantum theory is required, preferably in quantum information theory, which is not covered by the course Algorithms in Quantum Theory

Advisors

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