

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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