

Master's Thesis

# [quantum] Semantic security of infinite-dimensional classical-quantum channels

Generalize semantic security of classical-quantum channels to infinite dimensional channel (not necessarily gaussian)

- [1] finite dimensional classical-quantum case  
<https://arxiv.org/abs/2001.05719>
- finite and infinite dimensional classical case  
<https://arxiv.org/abs/1811.07798>
- [this subpoint can be a project by itself] the finite dimensional case needs to be recast into smooth-max information (instead than Lemma 5.7 of [1]) as the classical case does, this paper proves properties of the smooth-max-inf in finite dimension that we would need for that  
<https://arxiv.org/abs/2001.05719>
- papers regarding the capacity for infinite dimensional channels  
<http://arxiv.org/abs/quant-ph/9912067v1>  
<http://arxiv.org/abs/quant-ph/0408009v3>  
<http://arxiv.org/abs/quant-ph/0408176v1>

## Prerequisites

quantum information theory

## Advisors

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