



## Towards lossless information transmission in ICT

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- Losses in ICT are a challenge to engineering and basic science. They are intrinsically linked to power consumption and in electronics they take place in mainly interconnects and switching operations.
- One idea to minimise or even avoid losses in the transmission of information in chips and circuits, is the concept of topological protection. I will introduce the tenets of my current ERC project with the idea, methods and progress to date.
- In a nutshell, it aims to explore the use of a lesser known potential state variable, namely, phonons, to transport signals in phononic waveguides and eventually using topological phononic waveguides in Si-compatible components and circuits. I will discuss schemes of phonon sources, waveguides and detection in the GHZ range.