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## Quantum Cryptography with BB84 protocol

*Tuesday, 30 August 2022 17:20 (25 minutes)*

We will discuss an introduction to the concept of quantum information and its application to quantum cryptography. I will go through an educational approach based on a laboratory demonstration of the BB84 quantum cryptography protocol. Quantum cryptography is based on quantum key distribution through a quantum channel. In the BB84 protocol the quantum state of the polarization of the photons is used in order to encode information. Due to the no cloning theorem an unknown quantum state carrying information cannot be cloned or copied and thus theoretically the key distributional through a quantum channel is protected from eavesdroppers.

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