Quantum Computing and Cryptography - 21: B92 Quantum Key Distribution Protocol

Length	Micromodule
Collection	NSA NCCP
Updated	March 14, 2019
Contributors	Abhishek Parakh
Academic Levels	Undergraduate, Graduate
Topics	Cryptography, Quantum Computing
Link	https://clark.center/details/aparakh/179e2d66-c50e-4015-95fc-5a59be0e67d0

Description

This lesson discusses the B92 quantum key distribution protocol. It stresses upon the use and importance of non-orthogonal bases in QKD protocols and how to apply the concept along with measurement to obtain a quantum key distibution algorithm. Students will also be able to analyze the effect of an eavesdropper on a QKD protocol.

The files are named nanomodules but it will take between 1 to 4 hours to complete all the exercises.

Email Dr. Abhishek Parakh at aparakh@unomaha.edu for solutions to the problems.

Note: To get started with Jupyter notebooks please follow the userguide available at: https://sites.google.com/unomaha.edu/userguideqcl/

Outcomes

- Apply the concept of measurement and non-orthogonal bases.
- Outline the working of B92 quantum key distribution protocol.
- Outline the significance of non-orthogonal bases in QKD protocol.
- Analyze analyze the effect of an eavesdropper on a QKD protocol.

Links

External links that are associated with this learning object

- User guide