

To understand quantum communication and its applications, we must first introduce the essential concepts of quantum information. In this chapter we explore the quantum bit, or qubit, as well as ...

Our goal here has been to show that even very simple modules can be entirely adequate as building blocks of universal communication and computation systems. The numbers we discuss ...

These modules serve various quantum technology applications, e.g. quantum sensing, timing and precision metrology. In addition, our hybrid micro-integration technology allows us to build ...

Here, we provide an overview of the advances in quantum photonic chips for quantum communication, beginning with a summary of the prevalent photonic integrated fabrication platforms ...

It encompasses the on-chip generation, manipulation, storage, and detection of photonic quantum information, showcased through applications in quantum communication and metrology.

Quantum Key Distribution (QKD) is a next-generation cybersecurity technology that uses the principles of quantum physics to securely exchange encryption keys. Unlike traditional cryptographic methods, ...

A complete quantum communication system (see Fig. 1) has been set up for development and testing of all QC components. It has been built from of-the-shelf components at the Fraunhofer HHI as a test ...

FLAME is a compact, frequency-stabilised laser module with integrated vapour cell that allows locking to spectral features of an atomic reference. This first FLAME product addresses transitions of Rubidium

Three distinct integration platforms, namely indium phosphide based monolithic integration, polymer-based hybrid integration and the CMOS-compatible silicon platform, have been employed to ...

Quantum Communication Micro-Module IP68

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