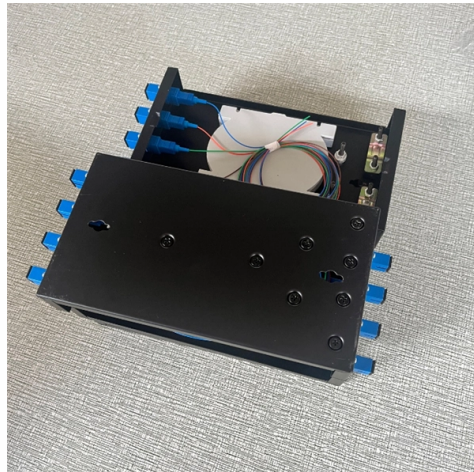


# Polarization-maintaining fiber and quantum communication



## Overview

Polarization-preserving fibers maintain the two polarization states of an orthogonal basis. One of the feedback control channels contains a 9.953 Gb/s data stream generated from a BER meter. To minimize the QBER of transmitted signals, the requirements on fiber segment accuracy are computed. © 2023 The Author (s) View More. A polarization-maintaining design for the terminals on Micius is critical for quantum communication, and the optical structure of the QKDT and QET is determined by using three polarization-maintaining methods. The optical configurations of the QKDT and QET are introduced, and the error is reduced from complex environmental effects and high channel-loss. Consequently, the hinge to enhancing the secure key rate (SKR) lies in achieving robust, low-error and high-speed polarization modulation. Although the schemes that realize self-compensation exhibit remarkable robustness.



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