KEY RATE RELIABLE LOWER BOUND FOR BB84 PROTOCOL

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Abstract

A key rate reliable lower bound is calculated for the standard four states BB84 protocol.

(a)

1 Theory

The BB84 protocol

Source-replacement scheme

General QKD protocol in the finite regime

Asymptotic analysis

Reliable lower bound

2 Code development

Operators definition

SDP algorithm implementation

3 Results

Reliable lower bound for BB84 (**simple case**)

Reliable lower bound for BB84 (**complete case**)

4 Self-evaluation