

THE ONE-WAY DEFICIT FOR A CLASS OF TWO-QUBIT STATES UNDER LOCAL NONDISSIPATIVE CHANNELS*

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ABSTRACT

In this paper, we analytically evaluate the one-way information deficit (OWID) for the X states with four parameters under local nondissipative channels, which includes phase flip channel, bit flip channel and bit-phase flip channel. We find that the OWID under the phase flip channel is positive, and greater than the OWID under the bit-phase flip channel, the latter is also greater than the OWID under the bit flip channel.

Keywords: One-way information deficit; phase flip channel; bit flip channel; bit-phase flip channel.