

## Quantum Physics

# Eavesdropping of two-way coherent-state quantum cryptography via Gaussian quantum cloning machines

Stefano Pirandola, Stefano Mancini, Seth Lloyd, Samuel L. Braunstein

*(Submitted on 22 Jan 2009)*

We consider one of the quantum key distribution protocols recently introduced in Ref. [Pirandola et al., Nature Physics 4, 726 (2008)]. This protocol consists in a two-way quantum communication between Alice and Bob, where Alice encodes secret information via a random phase-space displacement of a coherent state. In particular, we study its security against a specific class of individual attacks which are based on combinations of Gaussian quantum cloning machines.

Comments: Proceeding of ICQNM 2009, The Third International Conference on Quantum, Nano and Micro Technologies, Cancun, Mexico, 1-7 February 2009

Subjects: **Quantum Physics (quant-ph)**

Journal reference: Proc. of ICQNM 2009 (IEEE, Los Alamitos, California, 2009), pp. 38-41

DOI: [10.1109/ICQNM.2009.8](https://doi.org/10.1109/ICQNM.2009.8)

Cite as: [arXiv:0901.3568v1](https://arxiv.org/abs/0901.3568v1) [quant-ph]

## Submission history

From: Stefano Pirandola [[view email](#)]

[v1] Thu, 22 Jan 2009 22:28:39 GMT (18kb)

[Which authors of this paper are endorsers?](#)

## Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

Current browse context:

**quant-ph**

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [0901](#)

## References & Citations

- [SLAC-SPIRES HEP](#)  
([refers to](#) | [cited by](#))
- [CiteBase](#)

## Bookmark([what is this?](#))

[CiteULike logo](#)

[Connotea logo](#)

[BibSonomy logo](#)

[Mendeley logo](#)

[Facebook logo](#)

[del.icio.us logo](#)

[Digg logo](#)

[Reddit logo](#)