

Quantum Physics

Quantum Resonance near Optimal Eavesdropping in Quantum Cryptography

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(Submitted on 2 Jan 2009)

We find a resonance behavior in the disturbance when an eavesdropper chooses a near-optimal strategy intentionally or unintentionally when the usual Bennett-Brassard cryptographic scheme is performed between two trusted parties. This phenomenon tends to disappear when eavesdropping strategy moves far from the optimal one. Therefore, we conjecture that this resonant effect is a characteristic for the eavesdropping strategy near to optimal one. We argue that this effect makes the quantum cryptography more secure against the eavesdropper's attack.

Comments: 9 pages, 3 figures

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

Cite as: **arXiv:0901.0237v1 [quant-ph]**

Submission history

From: DaeKil Park [[view email](#)]

[v1] Fri, 2 Jan 2009 13:23:42 GMT (29kb)

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