

Quantum Hashing. Group approach

Ziiatdinov M.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016, Pleiades Publishing, Ltd. In this paper we consider a generalization of quantum hash functions for arbitrary groups. We show that quantum hash function exists for arbitrary abelian group. We construct a set of “good” automorphisms—a key component of quantum hash function. We prove some restrictions on Hilbert space dimension and group used in quantum hash function.

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Keywords

quantum fingerprinting, Quantum hash function