

Paulo Mateus*

SQIG, Instituto de Telecomunicações & IST, Lisboa

Emulations of quantum Turing machines as morphisms

The category of quantum Turing machines is presented and its properties are discussed. The existence of universal quantum Turing machine, the s-m-n theorem and other results concerning (quantum) Kolmogorov complexity are analysed in the context of the proposed category. On going research work with Amílcar Sernadas and André Souto.

References:

- [1] P. Mateus, A. Sernadas, A. Souto, Universality of quantum Turing machines with deterministic control, *in preparation*.

*Joint work with Amílcar Sernadas and André Souto.