L. Bruneau: Quantum entropic fluctuations and repeated interaction systems

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Since the seminal works of Evans, Searles, Gallavotti and Cohen in the early 90's the study of entropic fluctuations has encountered a fast growing interest in the last decades, and many developments at least in classical systems. Its quantum counterpart however turned out to be very challenging. It has further been realized that the two time measurement protocol, introduced independently by Kurchan and Tasaki in 2000, sheds a new light on the problem. In this talk we will first introduce the problem of entropic fluctuations in quantum systems. In a second part we will concentrate on a specific class of models particularly suited to the problem, the so-called repeated interaction systems whose physical paradigm is the one-atom maser model.

This talk is based on a joint work with J.-F. Bougron.