

Abstract:

I will give a review of the recent works on many-body localisation. This topic, which was born as an answer to the question of whether Anderson localisation can survive a not too large amount of interaction between the electrons, has now presented deep implications for several, apparently distant topics of theoretical Physics (from the fundamentals of statistical mechanics and ergodicity to the performance of quantum computers). The talk is supposed to be pedagogical: I will present some concrete examples and expose what is known today and what are the conjectures and open questions.