

Graduate talk

An introduction to quantum maps

1. Classical chaos on the torus: some examples
2. The construction of the corresponding quantum maps

Colloquium I

Quantum chaos : beyond the Schnirelman theorem

Quantum chaos is a part of semi-classical analysis: it is concerned with the semi-classical behaviour of quantum systems that have a chaotic classical limit. The goal of this colloquium talk is first and foremost to explain what all this means in some readily understood examples. I will then discuss the central issue of eigenfunction behaviour and in particular explain the Schnirelman theorem and the questions it raises.

Colloquium II

Quantum maps: a case study in quantum chaos

General results are hard to come by in quantum chaos. As a result, much attention is paid to various classes of examples. The simplest of those are arguably the so-called quantum maps. After explaining what they are, I will discuss some results obtained in the last few years.