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Quantum chaos in scattering theory

Models of quantum chaotic scattering include scattering by several convex bodies, open quantum maps, analysis on convex co-compact hyperbolic surfaces, and semiclassical potential scattering. In the talk, I will describe common features of these different models. The general goal will be to explain how classical objects, such as the thermodynamical pressure or dimension of the trapped set, affect quantum properties such as the decay rates or the density of states. I will concentrate on (colourful) pictures and intuitions rather than on the technical aspects of this (rather technical) subject.