Ruelle resonances for hyperbolic dynamical systems

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Ruelle resonances have been introduced in the 70s by David Ruelle in order to explain the convergence of deterministic dynamical systems towards equilibrium. By the seminal works of Blank-Keller-Liverani [2], Baladi-Tsujii [1], Gouezelle-Liverani [6] an others, it has been shown, that Ruelle resonances for hyperbolic dynamical systems can be understood as the discrete spectrum of the transfer operator on sophisticated anisotropic Banach and Hilbert spaces.

In this lecture series we will introduce the notion of Ruelle resonances and their importance for the assymptotic expansion of correlation functions. Then we will focus on one particular approach to construct suitable anisotropic Hilbert spaces, the so called microlocal-approach, introduced by Faure, Roy and Sjöstrand [3, 4, 5].

References

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