THE SPECTRUM OF ANOSOV REPRESENTATIONS

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Abstract

I will report on an ongoing project in collaboration with Yannick Guedes Bonthonneau and Tobias Weich. The goal of this work is to define a natural spectrum associated with Anosov representations, consisting of complex hypersurfaces in the complexified dual Cartan subalgebra. The leading hypersurface corresponds to a well-known object in the literature—the so-called critical hypersurface of the representation. To some extent, this spectrum generalizes a similar notion in the rank-one case, known as the set of Pollicott–Ruelle resonances (and the leading resonance), which is known to encode the exponential decay of correlations, among other properties. I will describe the main consequences of this spectral approach, namely the meromorphic extension (to the full complexified dual Cartan subalgebra) of dynamical zeta functions and Poincaré series associated with the representation. If time permits, I will discuss specific values of these functions, the sharp quantitative decay of correlations for the Weyl chamber flow, and the perspectives for future work.