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Entropy and Gibbs measures for hyperbolic systems

(i) Classical examples of hyperbolic systems, toral automorphisms and geodesics flows. Entropy and pressure in terms of expansion in the unstable direction. Construction of SRB measures (after Sinai) and Gibbs measures (after Climenhaga, Pesin and Zelerowicz).

(ii) Speed of mixing and resonances for hyperbolic systems. Explicit examples for toral automorphisms (after Bandtlow, Just and Slipantshuck).

(iii) Classical results on entropy for geodesic flows (after Katok, Manning, Margulis). A partial analogue for translation surfaces.

(iv) Random walks in hyperbolic space. Entropy, drift and harmonic measures. The Kaimanovich-Le Prince question.