Ergodic optimization and multifractal formalism of Lyapunov exponents

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In this talk, we discuss ergodic optimization and multifractal behavior of Lyapunov exponents for matrix cocycles. We show that the restricted variational principle holds for generic cocycles over mixing subshifts of finite type, and that the Lyapunov spectrum is equal to the closure of the set where the entropy spectrum is positive for such cocycles. Moreover, we show both the continuity of the entropy at the boundary of the Lyapunov spectrum for such cocycles and the continuity of the minimal Lyapunov exponent under the assumption that linear cocycles satisfy a cone condition. We consider a subadditive potential Φ. We obtain that for $t \to \infty$ any accumulation point of a family of equilibrium states of $t\Phi$ is a maximizing measure, and that the Lyapunov exponent and entropy of equilibrium states for $t\Phi$ converge in the limit $t \to \infty$ to the maximum Lyapunov exponent and entropy of maximizing measures.