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Ergodic Jacobi matrices and conformal maps.

We study structural properties of the Lyapunov exponent γ and the density of states k for ergodic (or just invariant) Jacobi matrices in a general framework. In this analysis, a central role is played by the function $w = -\gamma + i\pi k$ as a conformal map between certain domains. This idea goes back to Marchenko and Ostrovskii, who used this device in their analysis of the periodic problem. (Received October 19, 2011)