A More Constructive Approach to the Control of Lyapunov Exponents

Ilya Goldsheid
I.Goldsheid@qmul.ac.uk
School of Mathematical Sciences
Queen Mary, University of London
Mile End Road
London, E1 4NS
UK

Abstract

The importance of the existence of distinct Lyapunov exponents of products of random matrices is a well known fact. However it is even more important to have a control over certain operators which are responsible for these exponents. The approach which will be explain allows one to make progress in areas like

(i) the asymptotic behaviour of non-identically distributed independent random matrices;

(ii) the asymptotic behaviour of products of independent random matrices with "vanishing" disorder;

(iii) spectral properties of certain classes of random Schroedinger operators.