1111-37-834   **Marcelo Viana*** (`viana@impa.br`), Instituto de Matemática Pura e Aplicada (IMPA), Estrada D. Castorina 110, Jardim Botânico, Rio de Janeiro, 22460-320, and **Carlos Bocker**, **Artur Avila** and **Alex Eskin**, , Chicago, and **Elaís Malheiro**. *Repellers of random walks.*

In his 2009 thesis at IMPA, Carlos Bocker proved that the Lyapunov exponents of random (iid) products of 2-by-2 matrices always depend continuously on the matrices' coefficients and their probability weights. The proof is based on a detailed analysis of the dynamics of the associated random walk in projective space.

Most recently, Avila, Eskin and the speaker announced that they are able to carry this analysis to arbitrary dimension, using a very different (cost functions) approach. Thus, continuity of Lyapunov exponents on the underlying data holds in full generality for iid random products of matrices.

This new approach has been extended in the thesis of Elaís Malheiro to prove that the 2-dimensional statement generalizes to Markov products of matrices. Moreover, it is in the basis of the work of Lucas Backes, another 2014 thesis at IMPA, which contains substantial progress towards proving that continuity of Lyapunov exponents holds for very general 2-dimensional Holder cocycles over hyperbolic systems.

These results are in stark contrast with observations of Ricardo Mañéin the 1980's, completed by Jairo Bochi and the speaker two decades later, according to which one can often annihilate the Lyapunov exponents of continuous linear cocycles, thus making continuity a very particular situation in that context. (Received May 19, 2015)