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Characterisation of intermittency in chaotic systems

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J. Phys. A: Math. Gen. **18** (1985) 3281. Printed in Great Britain

Addendum

Characterisation of intermittency in chaotic systems
R Benzi, G Paladin, G Parisi and A Vulpiani 1985 *J. Phys. A: Math. Gen.* **18** 2157–65

We would like to point out that in the case of chaotic maps g supported by measures with Hausdorff dimension D_H, the reasonable weight to be assumed is $|(g^{(n)})'|^{-D_H}$ instead of $|(g^{(n)})'|^{-1}$ as for absolutely continuous measures (with $D_H = 1$).

The ensemble average on the set of unstable fixed points of g therefore leads us to change relations (26) and (27) to

$$L(D_H - \beta) = -\beta F(g, \beta)$$

$$\lambda = U(g, \beta)|_{\beta = D_H}.$$

The Bowen theorem (Bowen 1975) which assures that for axiom A systems $F(D_H) = 0$ supports our assumption on the weight as the theorem is obviously satisfied noting the trivial equality $L(0) = 0$.

Reference

Bowen R 1975 *Equilibrium States and the Ergodic Theory of Anosov Diffeomorphism* (*Lectures Notes in Math.* vol 470) (Berlin: Springer)

0305-4470/85/163281+01$02.25 © 1985 The Institute of Physics