Regularity of functions: Genericity and multifractal analysis

ERRATUM

October 22, 2014

This list of mistakes does not pretend to be exhaustive; it only contains the mistakes I have spotted until now.

- Lemma 2.3.11. (page 24) can be simply written

  \[ \text{The functions } e_\alpha, \alpha \in \mathbb{R}, \text{ are linearly independant.} \]

- In the proof of Proposition 2.3.12. (page 25), the point \( x_0 \) is chosen in \( \mathbb{R} \).

- Page 35, the definition of the relation \(<\) is not correct: the correct one is given in Definition 3.2.17. (page 41).

- In Definition 3.2.1. (page 36), the relation \( M_k^2 \leq M_{k-1}M_{k+1} \) must hold for every \( k \in \mathbb{N} \).

- Remark 3.2.15. (page 40) seems to be incorrect. But up to now, I do not have any counterexample in the log-convex case.

- Proposition 3.3.9 (page 47) was proved in 1991 by Schmets and Valdivia (and not in 1999).

- In Definition 4.2.1. (page 69), the \( s \)-dimensional Hausdorff measure can be defined for every \( s \geq 0 \). Then, in Definition 4.2.3. (page 70), the Hausdorff dimension of a subset \( B \) of \( \mathbb{R}^n \) is defined by

  \[ \dim_H(B) = \sup\{s \geq 0 : H^s(B) = +\infty\}. \]

- Page 82, we have \( \eta_f(p) = \tilde{\eta}_f(p) \) is \( p > p_c \) (and not if \( p < p_c \)).

- In Lemma 5.5.1. (page 113), one can assume that \( \tilde{\rho}_\xi \) takes the value \( -\infty \) outside of a compact set of \([0, +\infty)\).

- The space \( \Omega \) should be replaced by the space \( C^0 \) in
  - Remark 6.4.3. (page 126), item 2.
  - Proposition 6.4.7. (pages 127-128) and in its proof.