# On the multifractal formalism

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### Abstract

The term "multifractal" has been introduced in the beginning of the 80's by physicists (Hentschel and Procaccia). One of the sources of this concept are works by Mandelbrot on transmission errors on the telephone and on the statistical description of turbulence (the Mandelbrot multiplicative cascades, studied by Kahane and Peyrière [1] and afterwards by many authors). One of the first mathematical articles on multifractals having a certain degree of generality is the one by Brown, Michon, and Peyrière [6]. The formalism, for measures, which is nowadays used is due to L. Olsen. Currently, the multifractal analysis of measures is a field, inside the geometric measure theory, which is actively investigated. Former students of J. Peyrière, Wen Zhi-Ying, F. Ben Nasr and J. Barral made many valuable contributions on multiplicative cascades and their generalizations as well as on the multifractal analysis of measures.