

# Sparse sampling and dilation operations on a Gibbs weighted tree, and multifractal formalism

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Starting from a Gibbs capacity, we build a new random capacity by applying two simple operations, the first one introducing some redundancy and the second one performing a random sampling. Depending on the values of the two parameters ruling the redundancy and the sampling, the new capacity has very different multifractal behaviors. In particular, the multifractal spectrum of the capacity may contain two to four phase transitions, and the multifractal formalism may hold only on a strict subset (sometimes, reduced to a single point) of the spectrum's domain.

This is joint work with S. Seuret.