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Edinburg, TX 78539. *Quantization for Probability Distributions*.

Quantization for probability distributions refers to the idea of estimating a given probability by a discrete probability supported by a set with no more than n points. It has broad application in signal processing and data compression. Quantization dimension gives the speed how fast the specified measure of the error goes to zero as n approaches to infinity. Quantization dimension is also connected with other dimensions of dynamical systems such as Hausdorff, packing and box counting dimensions. It is also connected with the temperature function that arises in the thermodynamic formalism in multifractal analysis. In the discretization process it is much more difficult to find the optimal sets of n -means than to calculate the quantization dimension. I will talk about it. (Received March 08, 2021)