



On sampling and parametrization of discrete frequency distributions

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Phenomenological distributions cannot exhibit a strict scaling behavior, because of the existence of an unavoidable upper limit on the empirical values of the variables describing the system. This is especially evident in the case of distributions obtained from some kind of sampling.

We discuss convenient ways of parametrizing the breakdown of scaling and the effects of sampling.

We show that it is possible to define a large set of quantities whose expectation values do not depend on the size of the sample, thus allowing in principle a proper parametrization of the underlying scaling distribution.