On quantifying dependence between random elements

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Abstract

In the introduction are presented relatively recent results on the maximum correlation coefficient in two setups. The first deals with partial sums of independent identically distributed random variables, and the second with the components of a bivariate Gaussian stationary process.

The main part of the talk is devoted to discussion of properties one requires from a reasonable numerical measure of dependence.

My own contribution is in construction of a calibrated scale of models starting at independence and going from it in a specified direction.